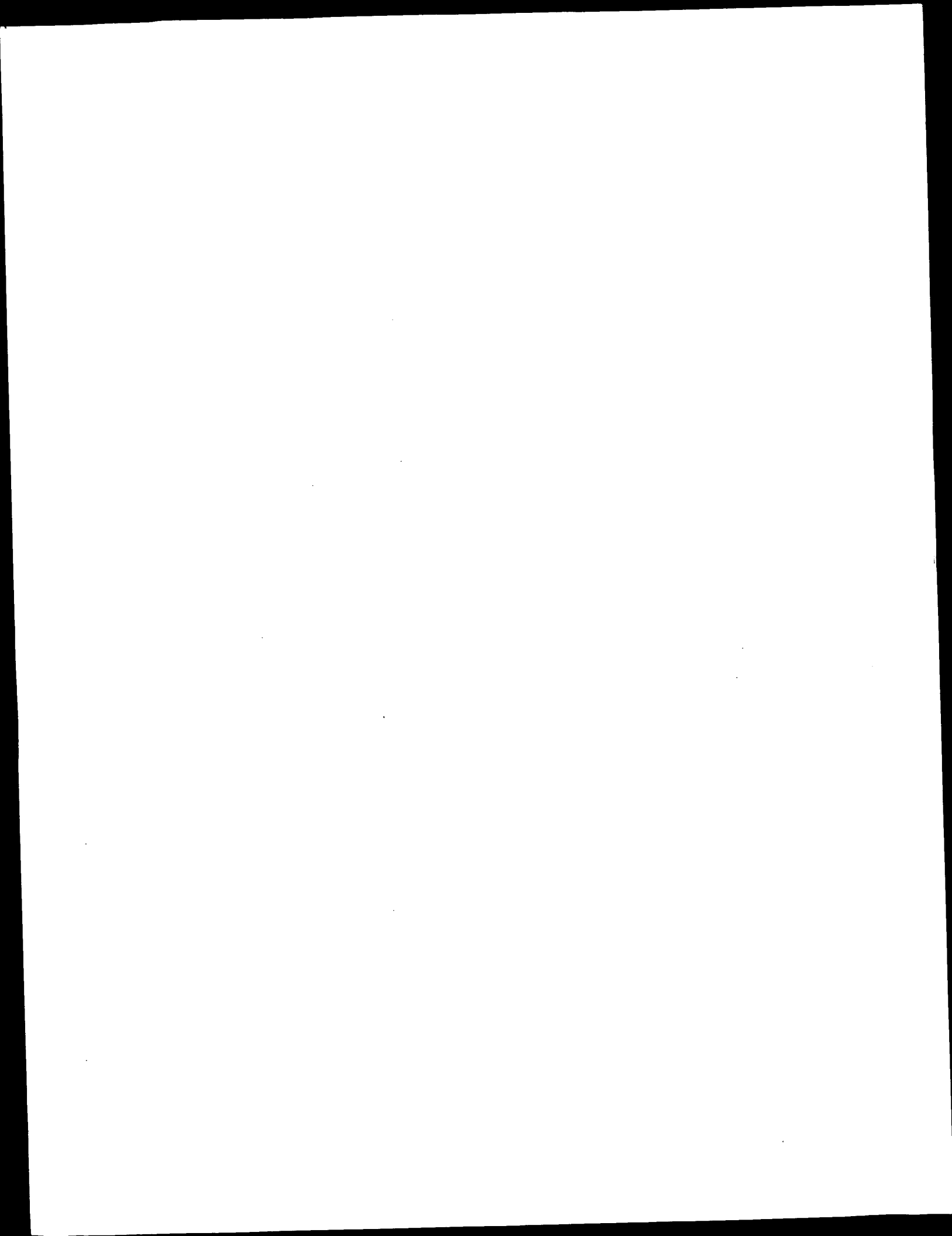




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<p>(21) International Application Number: PCT/US99/15838 (22) International Filing Date: 14 July 1999 (14.07.99) (30) Priority Data: 09/115,453 14 July 1998 (14.07.98) US 09/116,134 14 July 1998 (14.07.98) US 09/159,822 23 September 1998 (23.09.98) US 09/159,812 23 September 1998 (23.09.98) US 09/232,880 15 January 1999 (15.01.99) US 09/232,149 15 January 1999 (15.01.99) US 09/288,946 9 April 1999 (09.04.99) US (71) Applicant: CORIXA CORPORATION [US/US]; Suite 200, 1124 Columbia Street, Seattle, WA 98104 (US). (72) Inventors: DILLON, Davin, Clifford; 21607 N.E. 24th Street, Redmond, WA 98053 (US). HARLOCKER, Susan, Louise; 6203 20th Avenue N.W., Seattle, WA 98107 (US). YUQIU, Jiang; 5001 South 232nd Street, Kent, WA 98032 (US). XU, Jiangchun; 15805 S.E. 43rd Place, Bellevue, WA 98006 (US). MITCHAM, Jennifer, Lynn; 116677 Northeast 88th Street, Redmond, WA 98052 (US).</p>		<p>(74) Agents: MAKI, David, J. et al.; Seed and Berry LLP, 63 Columbia, 701 Fifth Avenue, Seattle, WA 98104-70 (US). (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, B BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, G GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, K KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, M MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, S SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZI ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, U ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, T TM), European patent (AT, BE, CH, CY, DE, DK, ES, I FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI pate (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, N SN, TD, TG).</p>
<p>(54) Title: COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER</p>		<p>Published Without international search report to be republished upon receipt of that report.</p>
<p>(57) Abstract Compositions and methods for the therapy and diagnosis of cancer comprise one or more prostate tumor proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell or cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as prostate cancer. Diagnostic methods based on detecting a prostate tumor protein, or mRNA encoding such a protein, in a sample are also provided.</p>		



## COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER

### TECHNICAL FIELD

The present invention relates generally to therapy and diagnosis of cancer, such as prostate cancer. The invention is more specifically related to polypeptides comprising at least a portion of a prostate tumor protein, and to polynucleotides encoding such polypeptides. Such polypeptides and polynucleotides may be used in vaccines and pharmaceutical compositions for prevention and treatment of prostate cancer, and for the diagnosis and monitoring of such cancers.

### BACKGROUND OF THE INVENTION

Prostate cancer is the most common form of cancer among males, with an estimated incidence of 30% in men over the age of 50. Overwhelming clinical evidence shows that human prostate cancer has the propensity to metastasize to bone, and the disease appears to progress inevitably from androgen dependent to androgen refractory status, leading to increased patient mortality. This prevalent disease is currently the second leading cause of cancer death among men in the U.S.

In spite of considerable research into therapies for the disease, prostate cancer remains difficult to treat. Commonly, treatment is based on surgery and/or radiation therapy, but these methods are ineffective in a significant percentage of cases. Two previously identified prostate specific proteins - prostate specific antigen (PSA) and prostatic acid phosphatase (PAP) - have limited therapeutic and diagnostic potential. For example, PSA levels do not always correlate well with the presence of prostate cancer, being positive in a percentage of non-prostate cancer cases, including benign prostatic hyperplasia (BPH). Furthermore, PSA measurements correlate with prostate volume, and do not indicate the level of metastasis.

In spite of considerable research into therapies for these and other cancers, prostate cancer remains difficult to diagnose and treat effectively. Accordingly, there is a need in the art for improved methods for detecting and treating such cancers. The present invention fulfills these needs and further provides other related advantages.

### SUMMARY OF THE INVENTION

Briefly stated, the present invention provides compositions and methods for the diagnosis and therapy of cancer, such as prostate cancer. In one aspect, the present

invention provides polypeptides comprising at least a portion of a prostate tumor protein, or a variant thereof. Certain portions and other variants are immunogenic, such that the ability of the variant to react with antigen-specific antisera is not substantially diminished. Within certain embodiments, the polypeptide comprises at least an immunogenic portion of a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of: (a) sequences recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; (b) sequences that hybridize to any of the foregoing sequences under moderately stringent conditions; and (c) complements of any of the sequence of (a) or (b). In certain specific embodiments, such a polypeptide comprises at least a portion, or variant thereof, of a tumor protein that includes an amino acid sequence selected from the group consisting of sequences recited in any one of SEQ ID NO: 112-114, 172, 176, 178, 327, 329, 331, 336, 339, 376-380 and 383.

The present invention further provides polynucleotides that encode a polypeptide as described above, or a portion thereof (such as a portion encoding at least 15 amino acid residues of a prostate tumor protein), expression vectors comprising such polynucleotides and host cells transformed or transfected with such expression vectors.

Within other aspects, the present invention provides pharmaceutical compositions comprising a polypeptide or polynucleotide as described above and a physiologically acceptable carrier.

Within a related aspect of the present invention, vaccines are provided. Such vaccines comprise a polypeptide or polynucleotide as described above and a non-specific immune response enhancer.

The present invention further provides pharmaceutical compositions that comprise: (a) an antibody or antigen-binding fragment thereof that specifically binds to a prostate tumor protein; and (b) a physiologically acceptable carrier.

Within further aspects, the present invention provides pharmaceutical compositions comprising: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a pharmaceutically acceptable carrier or excipient. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B cells.

Within related aspects, vaccines are provided that comprise: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a non-specific immune response enhancer.

The present invention further provides, in other aspects, fusion proteins that comprise at least one polypeptide as described above, as well as polynucleotides encoding such fusion proteins.



Within related aspects, pharmaceutical compositions comprising a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a physiologically acceptable carrier are provided.

Vaccines are further provided, within other aspects, that comprise a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a non-specific immune response enhancer.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient a pharmaceutical composition or vaccine as recited above.

The present invention further provides, within other aspects, methods for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a prostate tumor protein, wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the protein from the sample.

Within related aspects, methods are provided for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated as described above.

Methods are further provided, within other aspects, for stimulating and/or expanding T cells specific for a prostate tumor protein, comprising contacting T cells with one or more of: (i) a polypeptide as described above; (ii) a polynucleotide encoding such a polypeptide; and/or (iii) an antigen presenting cell that expresses such a polypeptide; under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells. Isolated T cell populations comprising T cells prepared as described above are also provided.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population as described above.

The present invention further provides methods for inhibiting the development of a cancer in a patient, comprising the steps of: (a) incubating CD4<sup>+</sup> and/or CD8<sup>+</sup> T cells isolated from a patient with one or more of: (i) a polypeptide comprising at least an immunogenic portion of a prostate tumor protein; (ii) a polynucleotide encoding such a polypeptide; and (iii) an antigen-presenting cell that expressed such a polypeptide; and (b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient. Proliferated cells may, but need not, be cloned prior to administration to the patient.

Within further aspects, the present invention provides methods for determining the presence or absence of a cancer in a patient, comprising: (a) contacting a biological sample obtained from a patient with a binding agent that binds to a polypeptide as recited

above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; and (c) comparing the amount of polypeptide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within preferred embodiments, the binding agent is an antibody, more preferably a monoclonal antibody. The cancer may be prostate cancer.

The present invention also provides, within other aspects, methods for monitoring the progression of a cancer in a patient. Such methods comprise the steps of: (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polypeptide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

The present invention further provides, within other aspects, methods for determining the presence or absence of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein; (b) detecting in the sample a level of a polynucleotide, preferably mRNA, that hybridizes to the oligonucleotide; and (c) comparing the level of polynucleotide that hybridizes to the oligonucleotide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within certain embodiments, the amount of mRNA is detected via polymerase chain reaction using, for example, at least one oligonucleotide primer that hybridizes to a polynucleotide encoding a polypeptide as recited above, or a complement of such a polynucleotide. Within other embodiments, the amount of mRNA is detected using a hybridization technique, employing an oligonucleotide probe that hybridizes to a polynucleotide that encodes a polypeptide as recited above, or a complement of such a polynucleotide.

In related aspects, methods are provided for monitoring the progression of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein; (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polynucleotide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

Within further aspects, the present invention provides antibodies, such as monoclonal antibodies, that bind to a polypeptide as described above, as well as diagnostic

kits comprising such antibodies. Diagnostic kits comprising one or more oligonucleotide probes or primers as described above are also provided.

These and other aspects of the present invention will become apparent upon reference to the following detailed description and attached drawings. All references disclosed herein are hereby incorporated by reference in their entirety as if each was incorporated individually.

### BRIEF DESCRIPTION OF THE DRAWINGS AND SEQUENCE IDENTIFIERS

Figure 1 illustrates the ability of T cells to kill fibroblasts expressing the representative prostate tumor polypeptide P502S, as compared to control fibroblasts. The percentage lysis is shown as a series of effector:target ratios, as indicated.

Figures 2A and 2B illustrate the ability of T cells to recognize cells expressing the representative prostate tumor polypeptide P502S. In each case, the number of  $\gamma$ -interferon spots is shown for different numbers of responders. In Figure 2A, data is presented for fibroblasts pulsed with the P2S-12 peptide, as compared to fibroblasts pulsed with a control E75 peptide. In Figure 2B, data is presented for fibroblasts expressing P502S, as compared to fibroblasts expressing HER-2/*neu*.

Figure 3 represents a peptide competition binding assay showing that the P1S#10 peptide, derived from P501S, binds HLA-A2. Peptide P1S#10 inhibits HLA-A2 restricted presentation of fluM58 peptide to CTL clone D150M58 in TNF release bioassay. D150M58 CTL is specific for the HLA-A2 binding influenza matrix peptide fluM58.

Figure 4 illustrates the ability of T cell lines generated from P1S#10 immunized mice to specifically lyse P1S#10-pulsed Jurkat A2Kb targets and P501S-transduced Jurkat A2Kb targets, as compared to EGFP-transduced Jurkat A2Kb. The percent lysis is shown as a series of effector to target ratios, as indicated.

Figure 5 illustrates the ability of a T cell clone to recognize and specifically lyse Jurkat A2Kb cells expressing the representative prostate tumor polypeptide P501S, thereby demonstrating that the P1S#10 peptide may be a naturally processed epitope of the P501S polypeptide.

Figures 6A and 6B are graphs illustrating the specificity of a CD8<sup>+</sup> cell line (3A-1) for a representative prostate tumor antigen (P501S). Figure 6A shows the results of a <sup>51</sup>Cr release assay. The percent specific lysis is shown as a series of effector:target ratios, as indicated. Figure 6B shows the production of interferon-gamma by 3A-1 cells stimulated with autologous B-LCL transduced with P501S, at varying effector:target ratios as indicated.

SEQ ID NO: 1 is the determined cDNA sequence for F1-13

SEQ ID NO: 2 is the determined 3' cDNA sequence for F1-12

SEQ ID NO: 3 is the determined 5' cDNA sequence for F1-12  
SEQ ID NO: 4 is the determined 3' cDNA sequence for F1-16  
SEQ ID NO: 5 is the determined 3' cDNA sequence for H1-1  
SEQ ID NO: 6 is the determined 3' cDNA sequence for H1-9  
SEQ ID NO: 7 is the determined 3' cDNA sequence for H1-4  
SEQ ID NO: 8 is the determined 3' cDNA sequence for J1-17  
SEQ ID NO: 9 is the determined 5' cDNA sequence for J1-17  
SEQ ID NO: 10 is the determined 3' cDNA sequence for L1-12  
SEQ ID NO: 11 is the determined 5' cDNA sequence for L1-12  
SEQ ID NO: 12 is the determined 3' cDNA sequence for N1-1862  
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SEQ ID NO: 31 is the determined 3' cDNA sequence for J1-16  
SEQ ID NO: 32 is the determined 3' cDNA sequence for J1-21  
SEQ ID NO: 33 is the determined 3' cDNA sequence for K1-48  
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SEQ ID NO: 35 is the determined 3' cDNA sequence for L1-2  
SEQ ID NO: 36 is the determined 3' cDNA sequence for L1-6  
SEQ ID NO: 37 is the determined 3' cDNA sequence for N1-1858  
SEQ ID NO: 38 is the determined 3' cDNA sequence for N1-1860  
SEQ ID NO: 39 is the determined 3' cDNA sequence for N1-1861

SEQ ID NO: 40 is the determined 3' cDNA sequence for N1-1864  
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SEQ ID NO: 45 is the determined cDNA sequence for P20  
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SEQ ID NO: 47 is the determined cDNA sequence for P30  
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SEQ ID NO: 49 is the determined cDNA sequence for P36  
SEQ ID NO: 50 is the determined cDNA sequence for P38  
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SEQ ID NO: 56 is the determined cDNA sequence for P53  
SEQ ID NO: 57 is the determined cDNA sequence for P55  
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SEQ ID NO: 75 is the determined cDNA sequence for 1B-3976  
SEQ ID NO: 76 is the determined cDNA sequence for V1-3679

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SEQ ID NO: 81 is the determined cDNA sequence for 1G-4734  
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SEQ ID NO: 83 is the determined cDNA sequence for 1H-4781  
SEQ ID NO: 84 is the determined cDNA sequence for 1H-4785  
SEQ ID NO: 85 is the determined cDNA sequence for 1H-4787  
SEQ ID NO: 86 is the determined cDNA sequence for 1H-4796  
SEQ ID NO: 87 is the determined cDNA sequence for 1I-4807  
SEQ ID NO: 88 is the determined cDNA sequence for 1I-4810  
SEQ ID NO: 89 is the determined cDNA sequence for 1I-4811  
SEQ ID NO: 90 is the determined cDNA sequence for 1J-4876  
SEQ ID NO: 91 is the determined cDNA sequence for 1K-4884  
SEQ ID NO: 92 is the determined cDNA sequence for 1K-4896  
SEQ ID NO: 93 is the determined cDNA sequence for 1G-4761  
SEQ ID NO: 94 is the determined cDNA sequence for 1G-4762  
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SEQ ID NO: 106 is the determined cDNA sequence for 1D-4280  
SEQ ID NO: 107 is the determined full length cDNA sequence for F1-12 (also referred to as P504S)  
SEQ ID NO: 108 is the predicted amino acid sequence for F1-12  
SEQ ID NO: 109 is the determined full length cDNA sequence for J1-17  
SEQ ID NO: 110 is the determined full length cDNA sequence for L1-12  
SEQ ID NO: 111 is the determined full length cDNA sequence for N1-1862  
SEQ ID NO: 112 is the predicted amino acid sequence for J1-17

SEQ ID NO: 113 is the predicted amino acid sequence for L1-12  
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SEQ ID NO: 172 is the predicted amino acid sequence for P703P-DE1  
SEQ ID NO: 173 is the determined cDNA sequence for P703P-DE2  
SEQ ID NO: 174 is the determined cDNA sequence for P703P-DE6  
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SEQ ID NO: 183 is the determined extended cDNA sequence for 1H-4774  
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SEQ ID NO: 185 is the determined extended cDNA sequence for 1H-4785  
SEQ ID NO: 186 is the determined extended cDNA sequence for 1H-4787



SEQ ID NO: 187 is the determined extended cDNA sequence for 1H-4796  
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SEQ ID NO: 189 is the determined 3' cDNA sequence for 1I-4810  
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SEQ ID NO: 191 is the determined extended cDNA sequence for 1J-4876  
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SEQ ID NO: 223 is the determined cDNA sequence for P509S

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SEQ ID NO: 226 is the determined cDNA sequence for 9-A11  
SEQ ID NO: 227 is the determined cDNA sequence for 8-C6  
SEQ ID NO: 228 is the determined cDNA sequence for 8-H7  
SEQ ID NO: 229 is the determined cDNA sequence for JTPN13  
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SEQ ID NO: 231 is the determined cDNA sequence for JTPN23  
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SEQ ID NO: 236 is the determined cDNA sequence for PTPN35  
SEQ ID NO: 237 is the determined cDNA sequence for JTPN36  
SEQ ID NO: 238 is the determined cDNA sequence for JTPN38  
SEQ ID NO: 239 is the determined cDNA sequence for JTPN39  
SEQ ID NO: 240 is the determined cDNA sequence for JTPN40  
SEQ ID NO: 241 is the determined cDNA sequence for JTPN41  
SEQ ID NO: 242 is the determined cDNA sequence for JTPN42  
SEQ ID NO: 243 is the determined cDNA sequence for JTPN45  
SEQ ID NO: 244 is the determined cDNA sequence for JTPN46  
SEQ ID NO: 245 is the determined cDNA sequence for JTPN51  
SEQ ID NO: 246 is the determined cDNA sequence for JTPN56  
SEQ ID NO: 247 is the determined cDNA sequence for PTPN64  
SEQ ID NO: 248 is the determined cDNA sequence for JTPN65  
SEQ ID NO: 249 is the determined cDNA sequence for JTPN67  
SEQ ID NO: 250 is the determined cDNA sequence for JTPN76  
SEQ ID NO: 251 is the determined cDNA sequence for JTPN84  
SEQ ID NO: 252 is the determined cDNA sequence for JTPN85  
SEQ ID NO: 253 is the determined cDNA sequence for JTPN86  
SEQ ID NO: 254 is the determined cDNA sequence for JTPN87  
SEQ ID NO: 255 is the determined cDNA sequence for JTPN88  
SEQ ID NO: 256 is the determined cDNA sequence for JP1F1  
SEQ ID NO: 257 is the determined cDNA sequence for JP1F2  
SEQ ID NO: 258 is the determined cDNA sequence for JP1C2  
SEQ ID NO: 259 is the determined cDNA sequence for JP1B1  
SEQ ID NO: 260 is the determined cDNA sequence for JP1B2

SEQ ID NO: 261 is the determined cDNA sequence for JP1D3  
SEQ ID NO: 262 is the determined cDNA sequence for JP1A4  
SEQ ID NO: 263 is the determined cDNA sequence for JP1F5  
SEQ ID NO: 264 is the determined cDNA sequence for JP1E6  
SEQ ID NO: 265 is the determined cDNA sequence for JP1D6  
SEQ ID NO: 266 is the determined cDNA sequence for JP1B5  
SEQ ID NO: 267 is the determined cDNA sequence for JP1A6  
SEQ ID NO: 268 is the determined cDNA sequence for JP1E8  
SEQ ID NO: 269 is the determined cDNA sequence for JP1D7  
SEQ ID NO: 270 is the determined cDNA sequence for JP1D9  
SEQ ID NO: 271 is the determined cDNA sequence for JP1C10  
SEQ ID NO: 272 is the determined cDNA sequence for JP1A9  
SEQ ID NO: 273 is the determined cDNA sequence for JP1F12  
SEQ ID NO: 274 is the determined cDNA sequence for JP1E12  
SEQ ID NO: 275 is the determined cDNA sequence for JP1D11  
SEQ ID NO: 276 is the determined cDNA sequence for JP1C11  
SEQ ID NO: 277 is the determined cDNA sequence for JP1C12  
SEQ ID NO: 278 is the determined cDNA sequence for JP1B12  
SEQ ID NO: 279 is the determined cDNA sequence for JP1A12  
SEQ ID NO: 280 is the determined cDNA sequence for JP8G2  
SEQ ID NO: 281 is the determined cDNA sequence for JP8H1  
SEQ ID NO: 282 is the determined cDNA sequence for JP8H2  
SEQ ID NO: 283 is the determined cDNA sequence for JP8A3  
SEQ ID NO: 284 is the determined cDNA sequence for JP8A4  
SEQ ID NO: 285 is the determined cDNA sequence for JP8C3  
SEQ ID NO: 286 is the determined cDNA sequence for JP8G4  
SEQ ID NO: 287 is the determined cDNA sequence for JP8B6  
SEQ ID NO: 288 is the determined cDNA sequence for JP8D6  
SEQ ID NO: 289 is the determined cDNA sequence for JP8F5  
SEQ ID NO: 290 is the determined cDNA sequence for JP8A8  
SEQ ID NO: 291 is the determined cDNA sequence for JP8C7  
SEQ ID NO: 292 is the determined cDNA sequence for JP8D7  
SEQ ID NO: 293 is the determined cDNA sequence for P8D8  
SEQ ID NO: 294 is the determined cDNA sequence for JP8E7  
SEQ ID NO: 295 is the determined cDNA sequence for JP8F8  
SEQ ID NO: 296 is the determined cDNA sequence for JP8G8  
SEQ ID NO: 297 is the determined cDNA sequence for JP8B10

SEQ ID NO: 298 is the determined cDNA sequence for JP8C10  
SEQ ID NO: 299 is the determined cDNA sequence for JP8E9  
SEQ ID NO: 300 is the determined cDNA sequence for JP8E10  
SEQ ID NO: 301 is the determined cDNA sequence for JP8F9  
SEQ ID NO: 302 is the determined cDNA sequence for JP8H9  
SEQ ID NO: 303 is the determined cDNA sequence for JP8C12  
SEQ ID NO: 304 is the determined cDNA sequence for JP8E11  
SEQ ID NO: 305 is the determined cDNA sequence for JP8E12  
SEQ ID NO: 306 is the amino acid sequence for the peptide PS2#12  
SEQ ID NO: 307 is the determined cDNA sequence for P711P  
SEQ ID NO: 308 is the determined cDNA sequence for P712P  
SEQ ID NO: 309 is the determined cDNA sequence for CLONE23  
SEQ ID NO: 310 is the determined cDNA sequence for P774P  
SEQ ID NO: 311 is the determined cDNA sequence for P775P  
SEQ ID NO: 312 is the determined cDNA sequence for P715P  
SEQ ID NO: 313 is the determined cDNA sequence for P710P  
SEQ ID NO: 314 is the determined cDNA sequence for P767P  
SEQ ID NO: 315 is the determined cDNA sequence for P768P  
SEQ ID NO: 316-325 are the determined cDNA sequences of previously isolated genes  
SEQ ID NO: 326 is the determined cDNA sequence for P703PDE5  
SEQ ID NO: 327 is the predicted amino acid sequence for P703PDE5  
SEQ ID NO: 328 is the determined cDNA sequence for P703P6.26  
SEQ ID NO: 329 is the predicted amino acid sequence for P703P6.26  
SEQ ID NO: 330 is the determined cDNA sequence for P703PX-23  
SEQ ID NO: 331 is the predicted amino acid sequence for P703PX-23  
SEQ ID NO: 332 is the determined full length cDNA sequence for P509S  
SEQ ID NO: 333 is the determined extended cDNA sequence for P707P (also referred to as 11-C9)  
SEQ ID NO: 334 is the determined cDNA sequence for P714P  
SEQ ID NO: 335 is the determined cDNA sequence for P705P (also referred to as 9-F3)  
SEQ ID NO: 336 is the predicted amino acid sequence for P705P  
SEQ ID NO: 337 is the amino acid sequence of the peptide P1S#10  
SEQ ID NO: 338 is the amino acid sequence of the peptide p5  
SEQ ID NO: 339 is the predicted amino acid sequence of P509S  
SEQ ID NO: 340 is the determined cDNA sequence for P778P  
SEQ ID NO: 341 is the determined cDNA sequence for P786P  
SEQ ID NO: 342 is the determined cDNA sequence for P789P

- SEQ ID NO: 343 is the determined cDNA sequence for a clone showing homology to Homo sapiens MM46 mRNA
- SEQ ID NO: 344 is the determined cDNA sequence for a clone showing homology to Homo sapiens TNF-alpha stimulated ABC protein (ABC50) mRNA
- SEQ ID NO: 345 is the determined cDNA sequence for a clone showing homology to Homo sapiens mRNA for E-cadherin
- SEQ ID NO: 346 is the determined cDNA sequence for a clone showing homology to Human nuclear-encoded mitochondrial serine hydroxymethyltransferase (SHMT)
- SEQ ID NO: 347 is the determined cDNA sequence for a clone showing homology to Homo sapiens natural resistance-associated macrophage protein2 (NRAMP2)
- SEQ ID NO: 348 is the determined cDNA sequence for a clone showing homology to Homo sapiens phosphoglucomutase-related protein (PGMRP)
- SEQ ID NO: 349 is the determined cDNA sequence for a clone showing homology to Human mRNA for proteosome subunit p40
- SEQ ID NO: 350 is the determined cDNA sequence for P777P
- SEQ ID NO: 351 is the determined cDNA sequence for P779P
- SEQ ID NO: 352 is the determined cDNA sequence for P790P
- SEQ ID NO: 353 is the determined cDNA sequence for P784P
- SEQ ID NO: 354 is the determined cDNA sequence for P776P
- SEQ ID NO: 355 is the determined cDNA sequence for P780P
- SEQ ID NO: 356 is the determined cDNA sequence for P544S
- SEQ ID NO: 357 is the determined cDNA sequence for P745S
- SEQ ID NO: 358 is the determined cDNA sequence for P782P
- SEQ ID NO: 359 is the determined cDNA sequence for P783P
- SEQ ID NO: 360 is the determined cDNA sequence for unknown 17984
- SEQ ID NO: 361 is the determined cDNA sequence for P787P
- SEQ ID NO: 362 is the determined cDNA sequence for P788P
- SEQ ID NO: 363 is the determined cDNA sequence for unknown 17994
- SEQ ID NO: 364 is the determined cDNA sequence for P781P
- SEQ ID NO: 365 is the determined cDNA sequence for P785P
- SEQ ID NO: 366-375 are the determined cDNA sequences for splice variants of B305D.
- SEQ ID NO: 376 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 366.
- SEQ ID NO: 377 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 372.
- SEQ ID NO: 378 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 373.

SEQ ID NO: 379 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 374.

SEQ ID NO: 380 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 375.

SEQ ID NO: 381 is the determined cDNA sequence for B716P.

SEQ ID NO: 382 is the determined full-length cDNA sequence for P711P.

SEQ ID NO: 383 is the predicted amino acid sequence for P711P.

SEQ ID NO: 384 is the cDNA sequence for P1000C.

SEQ ID NO: 385 is the cDNA sequence for CGI-82.

SEQ ID NO:386 is the cDNA sequence for 23320.

SEQ ID NO:387 is the cDNA sequence for CGI-69.

SEQ ID NO:388 is the cDNA sequence for L-iditol-2-dehydrogenase.

SEQ ID NO:389 is the cDNA sequence for 23379.

SEQ ID NO:390 is the cDNA sequence for 23381.

SEQ ID NO:391 is the cDNA sequence for KIAA0122.

SEQ ID NO:392 is the cDNA sequence for 23399.

SEQ ID NO:393 is the cDNA sequence for a previously identified gene.

SEQ ID NO:394 is the cDNA sequence for HCLBP.

SEQ ID NO:395 is the cDNA sequence for transglutaminase.

SEQ ID NO:396 is the cDNA sequence for a previously identified gene.

SEQ ID NO:397 is the cDNA sequence for PAP.

SEQ ID NO:398 is the cDNA sequence for Ets transcription factor PDEF.

SEQ ID NO:399 is the cDNA sequence for hTGR.

SEQ ID NO:400 is the cDNA sequence for KIAA0295.

SEQ ID NO:401 is the cDNA sequence for 22545.

SEQ ID NO:402 is the cDNA sequence for 22547.

SEQ ID NO:403 is the cDNA sequence for 22548.

SEQ ID NO:404 is the cDNA sequence for 22550.

SEQ ID NO:405 is the cDNA sequence for 22551.

SEQ ID NO:406 is the cDNA sequence for 22552.

SEQ ID NO:407 is the cDNA sequence for 22553.

SEQ ID NO:408 is the cDNA sequence for 22558.

SEQ ID NO:409 is the cDNA sequence for 22562.

SEQ ID NO:410 is the cDNA sequence for 22565.

SEQ ID NO:411 is the cDNA sequence for 22567.

SEQ ID NO:412 is the cDNA sequence for 22568.

SEQ ID NO:413 is the cDNA sequence for 22570.

SEQ ID NO:414 is the cDNA sequence for 22571.  
SEQ ID NO:415 is the cDNA sequence for 22572.  
SEQ ID NO:416 is the cDNA sequence for 22573.  
SEQ ID NO:417 is the cDNA sequence for 22573.  
SEQ ID NO:418 is the cDNA sequence for 22575.  
SEQ ID NO:419 is the cDNA sequence for 22580.  
SEQ ID NO:420 is the cDNA sequence for 22581.  
SEQ ID NO:421 is the cDNA sequence for 22582.  
SEQ ID NO:422 is the cDNA sequence for 22583.  
SEQ ID NO:423 is the cDNA sequence for 22584.  
SEQ ID NO:424 is the cDNA sequence for 22585.  
SEQ ID NO:425 is the cDNA sequence for 22586.  
SEQ ID NO:426 is the cDNA sequence for 22587.  
SEQ ID NO:427 is the cDNA sequence for 22588.  
SEQ ID NO:428 is the cDNA sequence for 22589.  
SEQ ID NO:429 is the cDNA sequence for 22590.  
SEQ ID NO:430 is the cDNA sequence for 22591.  
SEQ ID NO:431 is the cDNA sequence for 22592.  
SEQ ID NO:432 is the cDNA sequence for 22593.  
SEQ ID NO:433 is the cDNA sequence for 22594.  
SEQ ID NO:434 is the cDNA sequence for 22595.  
SEQ ID NO:435 is the cDNA sequence for 22596.  
SEQ ID NO:436 is the cDNA sequence for 22847.  
SEQ ID NO:437 is the cDNA sequence for 22848.  
SEQ ID NO:438 is the cDNA sequence for 22849.  
SEQ ID NO:439 is the cDNA sequence for 22851.  
SEQ ID NO:440 is the cDNA sequence for 22852.  
SEQ ID NO:441 is the cDNA sequence for 22853.  
SEQ ID NO:442 is the cDNA sequence for 22854.  
SEQ ID NO:443 is the cDNA sequence for 22855.  
SEQ ID NO:444 is the cDNA sequence for 22856.  
SEQ ID NO:445 is the cDNA sequence for 22857.  
SEQ ID NO:446 is the cDNA sequence for 23601.  
SEQ ID NO:447 is the cDNA sequence for 23602.  
SEQ ID NO:448 is the cDNA sequence for 23605.  
SEQ ID NO:449 is the cDNA sequence for 23606.  
SEQ ID NO:450 is the cDNA sequence for 23612.

SEQ ID NO:451 is the cDNA sequence for 23614.  
SEQ ID NO:452 is the cDNA sequence for 23618.  
SEQ ID NO:453 is the cDNA sequence for 23622.  
SEQ ID NO:454 is the cDNA sequence for folate hydrolase.  
SEQ ID NO:455 is the cDNA sequence for LIM protein.  
SEQ ID NO:456 is the cDNA sequence for a known gene.  
SEQ ID NO:457 is the cDNA sequence for a known gene.  
SEQ ID NO:458 is the cDNA sequence for a previously identified gene.  
SEQ ID NO:459 is the cDNA sequence for 23045.  
SEQ ID NO:460 is the cDNA sequence for 23032.  
SEQ ID NO:461 is the cDNA sequence for 23054.  
SEQ ID NOs:462-467 are cDNA sequences for known genes.  
SEQ ID NOs:468-471 are cDNA sequences for P710P.  
SEQ ID NO:472 is a cDNA sequence for P1001C.

#### DETAILED DESCRIPTION OF THE INVENTION

As noted above, the present invention is generally directed to compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer. The compositions described herein may include prostate tumor polypeptides, polynucleotides encoding such polypeptides, binding agents such as antibodies, antigen presenting cells (APCs) and/or immune system cells (*e.g.*, T cells). Polypeptides of the present invention generally comprise at least a portion (such as an immunogenic portion) of a prostate tumor protein or a variant thereof. A "prostate tumor protein" is a protein that is expressed in prostate tumor cells at a level that is at least two fold, and preferably at least five fold, greater than the level of expression in a normal tissue, as determined using a representative assay provided herein. Certain prostate tumor proteins are tumor proteins that react detectably (within an immunoassay, such as an ELISA or Western blot) with antisera of a patient afflicted with prostate cancer. Polynucleotides of the subject invention generally comprise a DNA or RNA sequence that encodes all or a portion of such a polypeptide, or that is complementary to such a sequence. Antibodies are generally immune system proteins, or antigen-binding fragments thereof, that are capable of binding to a polypeptide as described above. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B-cells that express a polypeptide as described above. T cells that may be employed within such compositions are generally T cells that are specific for a polypeptide as described above.



The present invention is based on the discovery of human prostate tumor proteins. Sequences of polynucleotides encoding certain tumor proteins, or portions thereof, are provided in SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472. Sequences of polypeptides comprising at least a portion of a tumor protein are provided in SEQ ID NOs:112-114, 172, 176, 178, 327, 329, 331, 336, 339, 376-380 and 383.

#### PROSTATE TUMOR PROTEIN POLYNUCLEOTIDES

Any polynucleotide that encodes a prostate tumor protein or a portion or other variant thereof as described herein is encompassed by the present invention. Preferred polynucleotides comprise at least 15 consecutive nucleotides, preferably at least 30 consecutive nucleotides and more preferably at least 45 consecutive nucleotides, that encode a portion of a prostate tumor protein. More preferably, a polynucleotide encodes an immunogenic portion of a prostate tumor protein. Polynucleotides complementary to any such sequences are also encompassed by the present invention. Polynucleotides may be single-stranded (coding or antisense) or double-stranded, and may be DNA (genomic, cDNA or synthetic) or RNA molecules. RNA molecules include HnRNA molecules, which contain introns and correspond to a DNA molecule in a one-to-one manner, and mRNA molecules, which do not contain introns. Additional coding or non-coding sequences may, but need not, be present within a polynucleotide of the present invention, and a polynucleotide may, but need not, be linked to other molecules and/or support materials.

Polynucleotides may comprise a native sequence (*i.e.*, an endogenous sequence that encodes a prostate tumor protein or a portion thereof) or may comprise a variant of such a sequence. Polynucleotide variants may contain one or more substitutions, additions, deletions and/or insertions such that the immunogenicity of the encoded polypeptide is not diminished, relative to a native tumor protein. The effect on the immunogenicity of the encoded polypeptide may generally be assessed as described herein. Variants preferably exhibit at least about 70% identity, more preferably at least about 80% identity and most preferably at least about 90% identity to a polynucleotide sequence that encodes a native prostate tumor protein or a portion thereof.

Two polynucleotide or polypeptide sequences are said to be "identical" if the sequence of nucleotides or amino acids in the two sequences is the same when aligned for maximum correspondence as described below. Comparisons between two sequences are typically performed by comparing the sequences over a comparison window to identify and compare local regions of sequence similarity. A "comparison window" as used herein, refers to a segment of at least about 20 contiguous positions, usually 30 to about 75, 40 to about 50,

in which a sequence may be compared to a reference sequence of the same number of contiguous positions after the two sequences are optimally aligned.

Optimal alignment of sequences for comparison may be conducted using the Megalign program in the Lasergene suite of bioinformatics software (DNASTAR, Inc., Madison, WI), using default parameters. This program embodies several alignment schemes described in the following references: Dayhoff, M.O. (1978) A model of evolutionary change in proteins – Matrices for detecting distant relationships. In Dayhoff, M.O. (ed.) *Atlas of Protein Sequence and Structure*, National Biomedical Research Foundation, Washington DC Vol. 5, Suppl. 3, pp. 345-358; Hein J. (1990) Unified Approach to Alignment and Phylogenesis pp. 626-645 *Methods in Enzymology* vol. 183, Academic Press, Inc., San Diego, CA; Higgins, D.G. and Sharp, P.M. (1989) *CABIOS* 5:151-153; Myers, E.W. and Muller W. (1988) *CABIOS* 4:11-17; Robinson, E.D. (1971) *Comb. Theor* 11:105; Santou, N. Nes, M. (1987) *Mol. Biol. Evol.* 4:406-425; Sneath, P.H.A. and Sokal, R.R. (1973) *Numerical Taxonomy – the Principles and Practice of Numerical Taxonomy*, Freeman Press, San Francisco, CA; Wilbur, W.J. and Lipman, D.J. (1983) *Proc. Natl. Acad., Sci. USA* 80:726-730.

Preferably, the "percentage of sequence identity" is determined by comparing two optimally aligned sequences over a window of comparison of at least 20 positions, wherein the portion of the polynucleotide or polypeptide sequence in the comparison window may comprise additions or deletions (*i.e.*, gaps) of 20 percent or less, usually 5 to 15 percent, or 10 to 12 percent, as compared to the reference sequences (which does not comprise additions or deletions) for optimal alignment of the two sequences. The percentage is calculated by determining the number of positions at which the identical nucleic acid bases or amino acid residue occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions in the reference sequence (*i.e.*, the window size) and multiplying the results by 100 to yield the percentage of sequence identity.

Variants may also, or alternatively, be substantially homologous to a native gene, or a portion or complement thereof. Such polynucleotide variants are capable of hybridizing under moderately stringent conditions to a naturally occurring DNA sequence encoding a native prostate tumor protein (or a complementary sequence). Suitable moderately stringent conditions include prewashing in a solution of 5 X SSC, 0.5% SDS, 1.0 mM EDTA (pH 8.0); hybridizing at 50°C-65°C, 5 X SSC, overnight; followed by washing twice at 65°C for 20 minutes with each of 2X, 0.5X and 0.2X SSC containing 0.1% SDS.

It will be appreciated by those of ordinary skill in the art that, as a result of the degeneracy of the genetic code, there are many nucleotide sequences that encode a polypeptide as described herein. Some of these polynucleotides bear minimal homology to

the nucleotide sequence of any native gene. Nonetheless, polynucleotides that vary due to differences in codon usage are specifically contemplated by the present invention. Further, alleles of the genes comprising the polynucleotide sequences provided herein are within the scope of the present invention. Alleles are endogenous genes that are altered as a result of one or more mutations, such as deletions, additions and/or substitutions of nucleotides. The resulting mRNA and protein may, but need not, have an altered structure or function. Alleles may be identified using standard techniques (such as hybridization, amplification and/or database sequence comparison).

Polynucleotides may be prepared using any of a variety of techniques. For example, a polynucleotide may be identified, as described in more detail below, by screening a microarray of cDNAs for tumor-associated expression (*i.e.*, expression that is at least five fold greater in a prostate tumor than in normal tissue, as determined using a representative assay provided herein). Such screens may be performed using a Synteni microarray (Palo Alto, CA) according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Alternatively, polypeptides may be amplified from cDNA prepared from cells expressing the proteins described herein, such as prostate tumor cells. Such polynucleotides may be amplified via polymerase chain reaction (PCR). For this approach, sequence-specific primers may be designed based on the sequences provided herein, and may be purchased or synthesized.

An amplified portion may be used to isolate a full length gene from a suitable library (*e.g.*, a prostate tumor cDNA library) using well known techniques. Within such techniques, a library (cDNA or genomic) is screened using one or more polynucleotide probes or primers suitable for amplification. Preferably, a library is size-selected to include larger molecules. Random primed libraries may also be preferred for identifying 5' and upstream regions of genes. Genomic libraries are preferred for obtaining introns and extending 5' sequences.

For hybridization techniques, a partial sequence may be labeled (*e.g.*, by nick-translation or end-labeling with  $^{32}\text{P}$ ) using well known techniques. A bacterial or bacteriophage library is then screened by hybridizing filters containing denatured bacterial colonies (or lawns containing phage plaques) with the labeled probe (*see* Sambrook et al., *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratories, Cold Spring Harbor, NY, 1989). Hybridizing colonies or plaques are selected and expanded, and the DNA is isolated for further analysis. cDNA clones may be analyzed to determine the amount of additional sequence by, for example, PCR using a primer from the partial sequence and a primer from the vector. Restriction maps and partial sequences may be generated to identify one or more overlapping clones. The complete sequence may then be determined using

standard techniques, which may involve generating a series of deletion clones. The resulting overlapping sequences are then assembled into a single contiguous sequence. A full length cDNA molecule can be generated by ligating suitable fragments, using well known techniques.

Alternatively, there are numerous amplification techniques for obtaining a full length coding sequence from a partial cDNA sequence. Within such techniques, amplification is generally performed via PCR. Any of a variety of commercially available kits may be used to perform the amplification step. Primers may be designed using, for example, software well known in the art. Primers are preferably 22-30 nucleotides in length, have a GC content of at least 50% and anneal to the target sequence at temperatures of about 68°C to 72°C. The amplified region may be sequenced as described above, and overlapping sequences assembled into a contiguous sequence.

One such amplification technique is inverse PCR (*see* Triglia et al., *Nucl. Acids Res.* 16:8186, 1988), which uses restriction enzymes to generate a fragment in the known region of the gene. The fragment is then circularized by intramolecular ligation and used as a template for PCR with divergent primers derived from the known region. Within an alternative approach, sequences adjacent to a partial sequence may be retrieved by amplification with a primer to a linker sequence and a primer specific to a known region. The amplified sequences are typically subjected to a second round of amplification with the same linker primer and a second primer specific to the known region. A variation on this procedure, which employs two primers that initiate extension in opposite directions from the known sequence, is described in WO 96/38591. Another such technique is known as "rapid amplification of cDNA ends" or RACE. This technique involves the use of an internal primer and an external primer, which hybridizes to a polyA region or vector sequence, to identify sequences that are 5' and 3' of a known sequence. Additional techniques include capture PCR (Lagerstrom et al., *PCR Methods Applic.* 1:111-19, 1991) and walking PCR (Parker et al., *Nucl. Acids. Res.* 19:3055-60, 1991). Other methods employing amplification may also be employed to obtain a full length cDNA sequence.

In certain instances, it is possible to obtain a full length cDNA sequence by analysis of sequences provided in an expressed sequence tag (EST) database, such as that available from GenBank. Searches for overlapping ESTs may generally be performed using well known programs (*e.g.*, NCBI BLAST searches), and such ESTs may be used to generate a contiguous full length sequence.

Certain nucleic acid sequences of cDNA molecules encoding at least a portion of a prostate tumor protein are provided in SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472. Isolation of these

polynucleotides is described below. Each of these prostate tumor proteins was overexpressed in prostate tumor tissue.

Polynucleotide variants may generally be prepared by any method known in the art, including chemical synthesis by, for example, solid phase phosphoramidite chemical synthesis. Modifications in a polynucleotide sequence may also be introduced using standard mutagenesis techniques, such as oligonucleotide-directed site-specific mutagenesis (*see* Adelman et al., *DNA* 2:183, 1983). Alternatively, RNA molecules may be generated by *in vitro* or *in vivo* transcription of DNA sequences encoding a prostate tumor protein, or portion thereof, provided that the DNA is incorporated into a vector with a suitable RNA polymerase promoter (such as T7 or SP6). Certain portions may be used to prepare an encoded polypeptide, as described herein. In addition, or alternatively, a portion may be administered to a patient such that the encoded polypeptide is generated *in vivo* (e.g., by transfecting antigen-presenting cells, such as dendritic cells, with a cDNA construct encoding a prostate tumor polypeptide, and administering the transfected cells to the patient).

A portion of a sequence complementary to a coding sequence (*i.e.*, an antisense polynucleotide) may also be used as a probe or to modulate gene expression. cDNA constructs that can be transcribed into antisense RNA may also be introduced into cells of tissues to facilitate the production of antisense RNA. An antisense polynucleotide may be used, as described herein, to inhibit expression of a tumor protein. Antisense technology can be used to control gene expression through triple-helix formation, which compromises the ability of the double helix to open sufficiently for the binding of polymerases, transcription factors or regulatory molecules (*see* Gee et al., *In Huber and Carr, Molecular and Immunologic Approaches*, Futura Publishing Co. (Mt. Kisco, NY; 1994)). Alternatively, an antisense molecule may be designed to hybridize with a control region of a gene (e.g., promoter, enhancer or transcription initiation site), and block transcription of the gene; or to block translation by inhibiting binding of a transcript to ribosomes.

A portion of a coding sequence, or of a complementary sequence, may also be designed as a probe or primer to detect gene expression. Probes may be labeled with a variety of reporter groups, such as radionuclides and enzymes, and are preferably at least 10 nucleotides in length, more preferably at least 20 nucleotides in length and still more preferably at least 30 nucleotides in length. Primers, as noted above, are preferably 22-30 nucleotides in length.

Any polynucleotide may be further modified to increase stability *in vivo*. Possible modifications include, but are not limited to, the addition of flanking sequences at the 5' and/or 3' ends; the use of phosphorothioate or 2' O-methyl rather than phosphodiesterase linkages in the backbone; and/or the inclusion of nontraditional bases such

as inosine, queosine and wybutosine, as well as acetyl- methyl-, thio- and other modified forms of adenine, cytidine, guanine, thymine and uridine.

Nucleotide sequences as described herein may be joined to a variety of other nucleotide sequences using established recombinant DNA techniques. For example, a polynucleotide may be cloned into any of a variety of cloning vectors, including plasmids, phagemids, lambda phage derivatives and cosmids. Vectors of particular interest include expression vectors, replication vectors, probe generation vectors and sequencing vectors. In general, a vector will contain an origin of replication functional in at least one organism, convenient restriction endonuclease sites and one or more selectable markers. Other elements will depend upon the desired use, and will be apparent to those of ordinary skill in the art.

Within certain embodiments, polynucleotides may be formulated so as to permit entry into a cell of a mammal, and expression therein. Such formulations are particularly useful for therapeutic purposes, as described below. Those of ordinary skill in the art will appreciate that there are many ways to achieve expression of a polynucleotide in a target cell, and any suitable method may be employed. For example, a polynucleotide may be incorporated into a viral vector such as, but not limited to, adenovirus, adeno-associated virus, retrovirus, or vaccinia or other pox virus (*e.g.*, avian pox virus). Techniques for incorporating DNA into such vectors are well known to those of ordinary skill in the art. A retroviral vector may additionally transfer or incorporate a gene for a selectable marker (to aid in the identification or selection of transduced cells) and/or a targeting moiety, such as a gene that encodes a ligand for a receptor on a specific target cell, to render the vector target specific. Targeting may also be accomplished using an antibody, by methods known to those of ordinary skill in the art.

Other formulations for therapeutic purposes include colloidal dispersion systems, such as macromolecule complexes, nanocapsules, microspheres, beads, and lipid-based systems including oil-in-water emulsions, micelles, mixed micelles, and liposomes. A preferred colloidal system for use as a delivery vehicle *in vitro* and *in vivo* is a liposome (*i.e.*, an artificial membrane vesicle). The preparation and use of such systems is well known in the art.

#### PROSTATE TUMOR POLYPEPTIDES

Within the context of the present invention, polypeptides may comprise at least an immunogenic portion of a prostate tumor protein or a variant thereof, as described herein. As noted above, a "prostate tumor protein" is a protein that is expressed by prostate tumor cells. Proteins that are prostate tumor proteins also react detectably within an immunoassay (such as an ELISA) with antisera from a patient with prostate cancer. Polypeptides as described herein may be of any length. Additional sequences derived from

the native protein and/or heterologous sequences may be present, and such sequences may (but need not) possess further immunogenic or antigenic properties.

An "immunogenic portion," as used herein is a portion of a protein that is recognized (*i.e.*, specifically bound) by a B-cell and/or T-cell surface antigen receptor. Such immunogenic portions generally comprise at least 5 amino acid residues, more preferably at least 10, and still more preferably at least 20 amino acid residues of a prostate tumor protein or a variant thereof. Certain preferred immunogenic portions include peptides in which an N-terminal leader sequence and/or transmembrane domain have been deleted. Other preferred immunogenic portions may contain a small N- and/or C-terminal deletion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids), relative to the mature protein.

Immunogenic portions may generally be identified using well known techniques, such as those summarized in Paul, *Fundamental Immunology*, 3rd ed., 243-247 (Raven Press, 1993) and references cited therein. Such techniques include screening polypeptides for the ability to react with antigen-specific antibodies, antisera and/or T-cell lines or clones. As used herein, antisera and antibodies are "antigen-specific" if they specifically bind to an antigen (*i.e.*, they react with the protein in an ELISA or other immunoassay, and do not react detectably with unrelated proteins). Such antisera and antibodies may be prepared as described herein, and using well known techniques. An immunogenic portion of a native prostate tumor protein is a portion that reacts with such antisera and/or T-cells at a level that is not substantially less than the reactivity of the full length polypeptide (*e.g.*, in an ELISA and/or T-cell reactivity assay). Such immunogenic portions may react within such assays at a level that is similar to or greater than the reactivity of the full length polypeptide. Such screens may generally be performed using methods well known to those of ordinary skill in the art, such as those described in Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. For example, a polypeptide may be immobilized on a solid support and contacted with patient sera to allow binding of antibodies within the sera to the immobilized polypeptide. Unbound sera may then be removed and bound antibodies detected using, for example, <sup>125</sup>I-labeled Protein A.

As noted above, a composition may comprise a variant of a native prostate tumor protein. A polypeptide "variant," as used herein, is a polypeptide that differs from a native prostate tumor protein in one or more substitutions, deletions, additions and/or insertions, such that the immunogenicity of the polypeptide is not substantially diminished. In other words, the ability of a variant to react with antigen-specific antisera may be enhanced or unchanged, relative to the native protein, or may be diminished by less than 50%, and preferably less than 20%, relative to the native protein. Such variants may generally be identified by modifying one of the above polypeptide sequences and evaluating the reactivity of the modified polypeptide with antigen-specific antibodies or antisera as described herein.

Preferred variants include those in which one or more portions, such as an N-terminal leader sequence or transmembrane domain, have been removed. Other preferred variants include variants in which a small portion (e.g., 1-30 amino acids, preferably 5-15 amino acids) has been removed from the N- and/or C-terminal of the mature protein. Polypeptide variants preferably exhibit at least about 70%, more preferably at least about 90% and most preferably at least about 95% identity (determined as described above) to the identified polypeptides.

Preferably, a variant contains conservative substitutions. A "conservative substitution" is one in which an amino acid is substituted for another amino acid that has similar properties, such that one skilled in the art of peptide chemistry would expect the secondary structure and hydrophathic nature of the polypeptide to be substantially unchanged. Amino acid substitutions may generally be made on the basis of similarity in polarity, charge, solubility, hydrophobicity, hydrophilicity and/or the amphipathic nature of the residues. For example, negatively charged amino acids include aspartic acid and glutamic acid; positively charged amino acids include lysine and arginine; and amino acids with uncharged polar head groups having similar hydrophilicity values include leucine, isoleucine and valine; glycine and alanine; asparagine and glutamine; and serine, threonine, phenylalanine and tyrosine. Other groups of amino acids that may represent conservative changes include: (1) ala, pro, gly, glu, asp, gln, asn, ser, thr; (2) cys, ser, tyr, thr; (3) val, ile, leu, met, ala, phe; (4) lys, arg, his; and (5) phe, tyr, trp, his. A variant may also, or alternatively, contain nonconservative changes. In a preferred embodiment, variant polypeptides differ from a native sequence by substitution, deletion or addition of five amino acids or fewer. Variants may also (or alternatively) be modified by, for example, the deletion or addition of amino acids that have minimal influence on the immunogenicity, secondary structure and hydrophathic nature of the polypeptide.

As noted above, polypeptides may comprise a signal (or leader) sequence at the N-terminal end of the protein which co-translationally or post-translationally directs transfer of the protein. The polypeptide may also be conjugated to a linker or other sequence for ease of synthesis, purification or identification of the polypeptide (e.g., poly-His), or to enhance binding of the polypeptide to a solid support. For example, a polypeptide may be conjugated to an immunoglobulin Fc region.

Polypeptides may be prepared using any of a variety of well known techniques. Recombinant polypeptides encoded by DNA sequences as described above may be readily prepared from the DNA sequences using any of a variety of expression vectors known to those of ordinary skill in the art. Expression may be achieved in any appropriate host cell that has been transformed or transfected with an expression vector containing a DNA molecule that encodes a recombinant polypeptide. Suitable host cells include prokaryotes, yeast and higher eukaryotic cells. Preferably, the host cells employed are



*E. coli*, yeast or a mammalian cell line such as COS or CHO. Supernatants from suitable host/vector systems which secrete recombinant protein or polypeptide into culture media may be first concentrated using a commercially available filter. Following concentration, the concentrate may be applied to a suitable purification matrix such as an affinity matrix or an ion exchange resin. Finally, one or more reverse phase HPLC steps can be employed to further purify a recombinant polypeptide.

Portions and other variants having fewer than about 100 amino acids, and generally fewer than about 50 amino acids, may also be generated by synthetic means, using techniques well known to those of ordinary skill in the art. For example, such polypeptides may be synthesized using any of the commercially available solid-phase techniques, such as the Merrifield solid-phase synthesis method, where amino acids are sequentially added to a growing amino acid chain. See Merrifield, *J. Am. Chem. Soc.* 85:2149-2146, 1963. Equipment for automated synthesis of polypeptides is commercially available from suppliers such as Perkin Elmer/Applied BioSystems Division (Foster City, CA), and may be operated according to the manufacturer's instructions.

Within certain specific embodiments, a polypeptide may be a fusion protein that comprises multiple polypeptides as described herein, or that comprises at least one polypeptide as described herein and an unrelated sequence, such as a known tumor protein. A fusion partner may, for example, assist in providing T helper epitopes (an immunological fusion partner), preferably T helper epitopes recognized by humans, or may assist in expressing the protein (an expression enhancer) at higher yields than the native recombinant protein. Certain preferred fusion partners are both immunological and expression enhancing fusion partners. Other fusion partners may be selected so as to increase the solubility of the protein or to enable the protein to be targeted to desired intracellular compartments. Still further fusion partners include affinity tags, which facilitate purification of the protein.

Fusion proteins may generally be prepared using standard techniques, including chemical conjugation. Preferably, a fusion protein is expressed as a recombinant protein, allowing the production of increased levels, relative to a non-fused protein, in an expression system. Briefly, DNA sequences encoding the polypeptide components may be assembled separately, and ligated into an appropriate expression vector. The 3' end of the DNA sequence encoding one polypeptide component is ligated, with or without a peptide linker, to the 5' end of a DNA sequence encoding the second polypeptide component so that the reading frames of the sequences are in phase. This permits translation into a single fusion protein that retains the biological activity of both component polypeptides.

A peptide linker sequence may be employed to separate the first and the second polypeptide components by a distance sufficient to ensure that each polypeptide folds into its secondary and tertiary structures. Such a peptide linker sequence is incorporated into

the fusion protein using standard techniques well known in the art. Suitable peptide linker sequences may be chosen based on the following factors: (1) their ability to adopt a flexible extended conformation; (2) their inability to adopt a secondary structure that could interact with functional epitopes on the first and second polypeptides; and (3) the lack of hydrophobic or charged residues that might react with the polypeptide functional epitopes. Preferred peptide linker sequences contain Gly, Asn and Ser residues. Other near neutral amino acids, such as Thr and Ala may also be used in the linker sequence. Amino acid sequences which may be usefully employed as linkers include those disclosed in Maratea et al., *Gene* 40:39-46, 1985; Murphy et al., *Proc. Natl. Acad. Sci. USA* 83:8258-8262, 1986; U.S. Patent No. 4,935,233 and U.S. Patent No. 4,751,180. The linker sequence may generally be from 1 to about 50 amino acids in length. Linker sequences are not required when the first and second polypeptides have non-essential N-terminal amino acid regions that can be used to separate the functional domains and prevent steric interference.

The ligated DNA sequences are operably linked to suitable transcriptional or translational regulatory elements. The regulatory elements responsible for expression of DNA are located only 5' to the DNA sequence encoding the first polypeptides. Similarly, stop codons required to end translation and transcription termination signals are only present 3' to the DNA sequence encoding the second polypeptide.

Fusion proteins are also provided that comprise a polypeptide of the present invention together with an unrelated immunogenic protein. Preferably the immunogenic protein is capable of eliciting a recall response. Examples of such proteins include tetanus, tuberculosis and hepatitis proteins (see, for example, Stoute et al. *New Engl. J. Med.*, 336:86-91, 1997).

Within preferred embodiments, an immunological fusion partner is derived from protein D, a surface protein of the gram-negative bacterium *Haemophilus influenza B* (WO 91/18926). Preferably, a protein D derivative comprises approximately the first third of the protein (e.g., the first N-terminal 100-110 amino acids), and a protein D derivative may be lipidated. Within certain preferred embodiments, the first 109 residues of a Lipoprotein D fusion partner is included on the N-terminus to provide the polypeptide with additional exogenous T-cell epitopes and to increase the expression level in *E. coli* (thus functioning as an expression enhancer). The lipid tail ensures optimal presentation of the antigen to antigen presenting cells. Other fusion partners include the non-structural protein from influenzae virus, NS1 (hemagglutinin). Typically, the N-terminal 81 amino acids are used, although different fragments that include T-helper epitopes may be used.

In another embodiment, the immunological fusion partner is the protein known as LYTA, or a portion thereof (preferably a C-terminal portion). LYTA is derived from *Streptococcus pneumoniae*, which synthesizes an N-acetyl-L-alanine amidase known as

amidase LYTA (encoded by the *LytA* gene; *Gene* 43:265-292, 1986). LYTA is an autolysin that specifically degrades certain bonds in the peptidoglycan backbone. The C-terminal domain of the LYTA protein is responsible for the affinity to the choline or to some choline analogues such as DEAE. This property has been exploited for the development of *E. coli* C-LYTA expressing plasmids useful for expression of fusion proteins. Purification of hybrid proteins containing the C-LYTA fragment at the amino terminus has been described (*see Biotechnology* 10:795-798, 1992). Within a preferred embodiment, a repeat portion of LYTA may be incorporated into a fusion protein. A repeat portion is found in the C-terminal region starting at residue 178. A particularly preferred repeat portion incorporates residues 188-305.

In general, polypeptides (including fusion proteins) and polynucleotides as described herein are isolated. An "isolated" polypeptide or polynucleotide is one that is removed from its original environment. For example, a naturally-occurring protein is isolated if it is separated from some or all of the coexisting materials in the natural system. Preferably, such polypeptides are at least about 90% pure, more preferably at least about 95% pure and most preferably at least about 99% pure. A polynucleotide is considered to be isolated if, for example, it is cloned into a vector that is not a part of the natural environment.

#### BINDING AGENTS

The present invention further provides agents, such as antibodies and antigen-binding fragments thereof, that specifically bind to a prostate tumor protein. As used herein, an antibody, or antigen-binding fragment thereof, is said to "specifically bind" to a prostate tumor protein if it reacts at a detectable level (within, for example, an ELISA) with a prostate tumor protein, and does not react detectably with unrelated proteins under similar conditions. As used herein, "binding" refers to a noncovalent association between two separate molecules such that a complex is formed. The ability to bind may be evaluated by, for example, determining a binding constant for the formation of the complex. The binding constant is the value obtained when the concentration of the complex is divided by the product of the component concentrations. In general, two compounds are said to "bind," in the context of the present invention, when the binding constant for complex formation exceeds about  $10^3$  L/mol. The binding constant may be determined using methods well known in the art.

Binding agents may be further capable of differentiating between patients with and without a cancer, such as prostate cancer, using the representative assays provided herein. In other words, antibodies or other binding agents that bind to a prostate tumor protein will generate a signal indicating the presence of a cancer in at least about 20% of patients with the disease, and will generate a negative signal indicating the absence of the disease in at least about 90% of individuals without the cancer. To determine whether a binding agent satisfies this requirement, biological samples (*e.g.*, blood, sera, urine and/or tumor biopsies) from

patients with and without a cancer (as determined using standard clinical tests) may be assayed as described herein for the presence of polypeptides that bind to the binding agent. It will be apparent that a statistically significant number of samples with and without the disease should be assayed. Each binding agent should satisfy the above criteria; however, those of ordinary skill in the art will recognize that binding agents may be used in combination to improve sensitivity.

Any agent that satisfies the above requirements may be a binding agent. For example, a binding agent may be a ribosome, with or without a peptide component, an RNA molecule or a polypeptide. In a preferred embodiment, a binding agent is an antibody or an antigen-binding fragment thereof. Antibodies may be prepared by any of a variety of techniques known to those of ordinary skill in the art. *See, e.g., Harlow and Lane, Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, antibodies can be produced by cell culture techniques, including the generation of monoclonal antibodies as described herein, or via transfection of antibody genes into suitable bacterial or mammalian cell hosts, in order to allow for the production of recombinant antibodies. In one technique, an immunogen comprising the polypeptide is initially injected into any of a wide variety of mammals (*e.g., mice, rats, rabbits, sheep or goats*). In this step, the polypeptides of this invention may serve as the immunogen without modification. Alternatively, particularly for relatively short polypeptides, a superior immune response may be elicited if the polypeptide is joined to a carrier protein, such as bovine serum albumin or keyhole limpet hemocyanin. The immunogen is injected into the animal host, preferably according to a predetermined schedule incorporating one or more booster immunizations, and the animals are bled periodically. Polyclonal antibodies specific for the polypeptide may then be purified from such antisera by, for example, affinity chromatography using the polypeptide coupled to a suitable solid support.

Monoclonal antibodies specific for an antigenic polypeptide of interest may be prepared, for example, using the technique of Kohler and Milstein, *Eur. J. Immunol.* 6:511-519, 1976, and improvements thereto. Briefly, these methods involve the preparation of immortal cell lines capable of producing antibodies having the desired specificity (*i.e., reactivity with the polypeptide of interest*). Such cell lines may be produced, for example, from spleen cells obtained from an animal immunized as described above. The spleen cells are then immortalized by, for example, fusion with a myeloma cell fusion partner, preferably one that is syngeneic with the immunized animal. A variety of fusion techniques may be employed. For example, the spleen cells and myeloma cells may be combined with a nonionic detergent for a few minutes and then plated at low density on a selective medium that supports the growth of hybrid cells, but not myeloma cells. A preferred selection technique uses HAT (hypoxanthine, aminopterin, thymidine) selection. After a sufficient

time, usually about 1 to 2 weeks, colonies of hybrids are observed. Single colonies are selected and their culture supernatants tested for binding activity against the polypeptide. Hybridomas having high reactivity and specificity are preferred.

Monoclonal antibodies may be isolated from the supernatants of growing hybridoma colonies. In addition, various techniques may be employed to enhance the yield, such as injection of the hybridoma cell line into the peritoneal cavity of a suitable vertebrate host, such as a mouse. Monoclonal antibodies may then be harvested from the ascites fluid or the blood. Contaminants may be removed from the antibodies by conventional techniques, such as chromatography, gel filtration, precipitation, and extraction. The polypeptides of this invention may be used in the purification process in, for example, an affinity chromatography step.

Within certain embodiments, the use of antigen-binding fragments of antibodies may be preferred. Such fragments include Fab fragments, which may be prepared using standard techniques. Briefly, immunoglobulins may be purified from rabbit serum by affinity chromatography on Protein A bead columns (Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988) and digested by papain to yield Fab and Fc fragments. The Fab and Fc fragments may be separated by affinity chromatography on protein A bead columns.

Monoclonal antibodies of the present invention may be coupled to one or more therapeutic agents. Suitable agents in this regard include radionuclides, differentiation inducers, drugs, toxins, and derivatives thereof. Preferred radionuclides include  $^{90}\text{Y}$ ,  $^{123}\text{I}$ ,  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{186}\text{Re}$ ,  $^{188}\text{Re}$ ,  $^{211}\text{At}$ , and  $^{212}\text{Bi}$ . Preferred drugs include methotrexate, and pyrimidine and purine analogs. Preferred differentiation inducers include phorbol esters and butyric acid. Preferred toxins include ricin, abrin, diphtheria toxin, cholera toxin, gelonin, *Pseudomonas* exotoxin, *Shigella* toxin, and pokeweed antiviral protein.

A therapeutic agent may be coupled (*e.g.*, covalently bonded) to a suitable monoclonal antibody either directly or indirectly (*e.g.*, via a linker group). A direct reaction between an agent and an antibody is possible when each possesses a substituent capable of reacting with the other. For example, a nucleophilic group, such as an amino or sulfhydryl group, on one may be capable of reacting with a carbonyl-containing group, such as an anhydride or an acid halide, or with an alkyl group containing a good leaving group (*e.g.*, a halide) on the other.

Alternatively, it may be desirable to couple a therapeutic agent and an antibody via a linker group. A linker group can function as a spacer to distance an antibody from an agent in order to avoid interference with binding capabilities. A linker group can also serve to increase the chemical reactivity of a substituent on an agent or an antibody, and

thus increase the coupling efficiency. An increase in chemical reactivity may also facilitate the use of agents, or functional groups on agents, which otherwise would not be possible.

It will be evident to those skilled in the art that a variety of bifunctional or polyfunctional reagents, both homo- and hetero-functional (such as those described in the catalog of the Pierce Chemical Co., Rockford, IL), may be employed as the linker group. Coupling may be effected, for example, through amino groups, carboxyl groups, sulfhydryl groups or oxidized carbohydrate residues. There are numerous references describing such methodology, *e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.

Where a therapeutic agent is more potent when free from the antibody portion of the immunoconjugates of the present invention, it may be desirable to use a linker group which is cleavable during or upon internalization into a cell. A number of different cleavable linker groups have been described. The mechanisms for the intracellular release of an agent from these linker groups include cleavage by reduction of a disulfide bond (*e.g.*, U.S. Patent No. 4,489,710, to Spitler), by irradiation of a photolabile bond (*e.g.*, U.S. Patent No. 4,625,014, to Senter et al.), by hydrolysis of derivatized amino acid side chains (*e.g.*, U.S. Patent No. 4,638,045, to Kohn et al.), by serum complement-mediated hydrolysis (*e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.), and acid-catalyzed hydrolysis (*e.g.*, U.S. Patent No. 4,569,789, to Blattler et al.).

It may be desirable to couple more than one agent to an antibody. In one embodiment, multiple molecules of an agent are coupled to one antibody molecule. In another embodiment, more than one type of agent may be coupled to one antibody. Regardless of the particular embodiment, immunoconjugates with more than one agent may be prepared in a variety of ways. For example, more than one agent may be coupled directly to an antibody molecule, or linkers which provide multiple sites for attachment can be used. Alternatively, a carrier can be used.

A carrier may bear the agents in a variety of ways, including covalent bonding either directly or via a linker group. Suitable carriers include proteins such as albumins (*e.g.*, U.S. Patent No. 4,507,234, to Kato et al.), peptides and polysaccharides such as aminodextran (*e.g.*, U.S. Patent No. 4,699,784, to Shih et al.). A carrier may also bear an agent by noncovalent bonding or by encapsulation, such as within a liposome vesicle (*e.g.*, U.S. Patent Nos. 4,429,008 and 4,873,088). Carriers specific for radionuclide agents include radiohalogenated small molecules and chelating compounds. For example, U.S. Patent No. 4,735,792 discloses representative radiohalogenated small molecules and their synthesis. A radionuclide chelate may be formed from chelating compounds that include those containing nitrogen and sulfur atoms as the donor atoms for binding the metal, or metal oxide, radionuclide. For example, U.S. Patent No. 4,673,562, to Davison et al. discloses representative chelating compounds and their synthesis.

A variety of routes of administration for the antibodies and immunoconjugates may be used. Typically, administration will be intravenous, intramuscular, subcutaneous or in the bed of a resected tumor. It will be evident that the precise dose of the antibody/immunoconjugate will vary depending upon the antibody used, the antigen density on the tumor, and the rate of clearance of the antibody.

#### T CELLS

Immunotherapeutic compositions may also, or alternatively, comprise T cells specific for a prostate tumor protein. Such cells may generally be prepared *in vitro* or *ex vivo*, using standard procedures. For example, T cells may be isolated from bone marrow, peripheral blood, or a fraction of bone marrow or peripheral blood of a patient, using a commercially available cell separation system, such as the CEPRATE™ system, available from CellPro Inc., Bothell WA (*see also* U.S. Patent No. 5,240,856; U.S. Patent No. 5,215,926; WO 89/06280; WO 91/16116 and WO 92/07243). Alternatively, T cells may be derived from related or unrelated humans, non-human mammals, cell lines or cultures.

T cells may be stimulated with a prostate tumor polypeptide, polynucleotide encoding a prostate tumor polypeptide and/or an antigen presenting cell (APC) that expresses such a polypeptide. Such stimulation is performed under conditions and for a time sufficient to permit the generation of T cells that are specific for the polypeptide. Preferably, a prostate tumor polypeptide or polynucleotide is present within a delivery vehicle, such as a microsphere, to facilitate the generation of specific T cells.

T cells are considered to be specific for a prostate tumor polypeptide if the T cells kill target cells coated with the polypeptide or expressing a gene encoding the polypeptide. T cell specificity may be evaluated using any of a variety of standard techniques. For example, within a chromium release assay or proliferation assay, a stimulation index of more than two fold increase in lysis and/or proliferation, compared to negative controls, indicates T cell specificity. Such assays may be performed, for example, as described in Chen et al., *Cancer Res.* 54:1065-1070, 1994. Alternatively, detection of the proliferation of T cells may be accomplished by a variety of known techniques. For example, T cell proliferation can be detected by measuring an increased rate of DNA synthesis (*e.g.*, by pulse-labeling cultures of T cells with tritiated thymidine and measuring the amount of tritiated thymidine incorporated into DNA). Contact with a prostate tumor polypeptide (100 ng/ml - 100 µg/ml, preferably 200 ng/ml - 25 µg/ml) for 3 - 7 days should result in at least a two fold increase in proliferation of the T cells. Contact as described above for 2-3 hours should result in activation of the T cells, as measured using standard cytokine assays in which a two fold increase in the level of cytokine release (*e.g.*, TNF or IFN-γ) is indicative of T cell activation (*see* Coligan et al., *Current Protocols in Immunology*, vol. 1, Wiley Interscience

(Greene 1998)). T cells that have been activated in response to a prostate tumor polypeptide, polynucleotide or polypeptide-expressing APC may be CD4<sup>+</sup> and/or CD8<sup>+</sup>. Prostate tumor protein-specific T cells may be expanded using standard techniques. Within preferred embodiments, the T cells are derived from either a patient or a related, or unrelated, donor and are administered to the patient following stimulation and expansion.

For therapeutic purposes, CD4<sup>+</sup> or CD8<sup>+</sup> T cells that proliferate in response to a prostate tumor polypeptide, polynucleotide or APC can be expanded in number either *in vitro* or *in vivo*. Proliferation of such T cells *in vitro* may be accomplished in a variety of ways. For example, the T cells can be re-exposed to a prostate tumor polypeptide, or a short peptide corresponding to an immunogenic portion of such a polypeptide, with or without the addition of T cell growth factors, such as interleukin-2, and/or stimulator cells that synthesize a prostate tumor polypeptide. Alternatively, one or more T cells that proliferate in the presence of a prostate tumor protein can be expanded in number by cloning. Methods for cloning cells are well known in the art, and include limiting dilution.

#### PHARMACEUTICAL COMPOSITIONS AND VACCINES

Within certain aspects, polypeptides, polynucleotides, T cells and/or binding agents disclosed herein may be incorporated into pharmaceutical compositions or immunogenic compositions (*i.e.*, vaccines). Pharmaceutical compositions comprise one or more such compounds and a physiologically acceptable carrier. Vaccines may comprise one or more such compounds and a non-specific immune response enhancer. A non-specific immune response enhancer may be any substance that enhances an immune response to an exogenous antigen. Examples of non-specific immune response enhancers include adjuvants, biodegradable microspheres (*e.g.*, polylactic galactide) and liposomes (into which the compound is incorporated; *see e.g.*, Fullerton, U.S. Patent No. 4,235,877). Vaccine preparation is generally described in, for example, M.F. Powell and M.J. Newman, eds., "Vaccine Design (the subunit and adjuvant approach)," Plenum Press (NY, 1995). Pharmaceutical compositions and vaccines within the scope of the present invention may also contain other compounds, which may be biologically active or inactive. For example, one or more immunogenic portions of other tumor antigens may be present, either incorporated into a fusion polypeptide or as a separate compound, within the composition or vaccine.

A pharmaceutical composition or vaccine may contain DNA encoding one or more of the polypeptides as described above, such that the polypeptide is generated *in situ*. As noted above, the DNA may be present within any of a variety of delivery systems known to those of ordinary skill in the art, including nucleic acid expression systems, bacteria and viral expression systems. Numerous gene delivery techniques are well known in the art, such as those described by Rolland, *Crit. Rev. Therap. Drug Carrier Systems* 15:143-198, 1998,



and references cited therein. Appropriate nucleic acid expression systems contain the necessary DNA sequences for expression in the patient (such as a suitable promoter and terminating signal). Bacterial delivery systems involve the administration of a bacterium (such as *Bacillus-Calmette-Guerrin*) that expresses an immunogenic portion of the polypeptide on its cell surface or secretes such an epitope. In a preferred embodiment, the DNA may be introduced using a viral expression system (e.g., vaccinia or other pox virus, retrovirus, or adenovirus), which may involve the use of a non-pathogenic (defective), replication competent virus. Suitable systems are disclosed, for example, in Fisher-Hoch et al., *Proc. Natl. Acad. Sci. USA* 86:317-321, 1989; Flexner et al., *Ann. N.Y. Acad. Sci.* 569:86-103, 1989; Flexner et al., *Vaccine* 8:17-21, 1990; U.S. Patent Nos. 4,603,112, 4,769,330, and 5,017,487; WO 89/01973; U.S. Patent No. 4,777,127; GB 2,200,651; EP 0,345,242; WO 91/02805; Berkner, *Biotechniques* 6:616-627, 1988; Rosenfeld et al., *Science* 252:431-434, 1991; Kolls et al., *Proc. Natl. Acad. Sci. USA* 91:215-219, 1994; Kass-Eisler et al., *Proc. Natl. Acad. Sci. USA* 90:11498-11502, 1993; Guzman et al., *Circulation* 88:2838-2848, 1993; and Guzman et al., *Cir. Res.* 73:1202-1207, 1993. Techniques for incorporating DNA into such expression systems are well known to those of ordinary skill in the art. The DNA may also be "naked," as described, for example, in Ulmer et al., *Science* 259:1745-1749, 1993 and reviewed by Cohen, *Science* 259:1691-1692, 1993. The uptake of naked DNA may be increased by coating the DNA onto biodegradable beads, which are efficiently transported into the cells.

While any suitable carrier known to those of ordinary skill in the art may be employed in the pharmaceutical compositions of this invention, the type of carrier will vary depending on the mode of administration. Compositions of the present invention may be formulated for any appropriate manner of administration, including for example, topical, oral, nasal, intravenous, intracranial, intraperitoneal, subcutaneous or intramuscular administration. For parenteral administration, such as subcutaneous injection, the carrier preferably comprises water, saline, alcohol, a fat, a wax or a buffer. For oral administration, any of the above carriers or a solid carrier, such as mannitol, lactose, starch, magnesium stearate, sodium saccharine, talcum, cellulose, glucose, sucrose, and magnesium carbonate, may be employed. Biodegradable microspheres (e.g., polylactate polyglycolate) may also be employed as carriers for the pharmaceutical compositions of this invention. Suitable biodegradable microspheres are disclosed, for example, in U.S. Patent Nos. 4,897,268 and 5,075,109.

Such compositions may also comprise buffers (e.g., neutral buffered saline or phosphate buffered saline), carbohydrates (e.g., glucose, mannose, sucrose or dextrans), mannitol, proteins, polypeptides or amino acids such as glycine, antioxidants, chelating agents such as EDTA or glutathione, adjuvants (e.g., aluminum hydroxide) and/or

preservatives. Alternatively, compositions of the present invention may be formulated as a lyophilizate. Compounds may also be encapsulated within liposomes using well known technology.

Any of a variety of non-specific immune response enhancers may be employed in the vaccines of this invention. For example, an adjuvant may be included. Most adjuvants contain a substance designed to protect the antigen from rapid catabolism, such as aluminum hydroxide or mineral oil, and a stimulator of immune responses, such as lipid A, *Bordetella pertussis* or *Mycobacterium tuberculosis* derived proteins. Suitable adjuvants are commercially available as, for example, Freund's Incomplete Adjuvant and Complete Adjuvant (Difco Laboratories, Detroit, MI); Merck Adjuvant 65 (Merck and Company, Inc., Rahway, NJ); aluminum salts such as aluminum hydroxide gel (alum) or aluminum phosphate; salts of calcium, iron or zinc; an insoluble suspension of acylated tyrosine; acylated sugars; cationically or anionically derivatized polysaccharides; polyphosphazenes; biodegradable microspheres; monophosphoryl lipid A and quil A. Cytokines, such as GM-CSF or interleukin-2, -7, or -12, may also be used as adjuvants.

Within the vaccines provided herein, the adjuvant composition is preferably designed to induce an immune response predominantly of the Th1 type. High levels of Th1-type cytokines (*e.g.*, IFN- $\gamma$ , IL-2 and IL-12) tend to favor the induction of cell mediated immune responses to an administered antigen. In contrast, high levels of Th2-type cytokines (*e.g.*, IL-4, IL-5, IL-6, IL-10 and TNF- $\beta$ ) tend to favor the induction of humoral immune responses. Following application of a vaccine as provided herein, a patient will support an immune response that includes Th1- and Th2-type responses. Within a preferred embodiment, in which a response is predominantly Th1-type, the level of Th1-type cytokines will increase to a greater extent than the level of Th2-type cytokines. The levels of these cytokines may be readily assessed using standard assays. For a review of the families of cytokines, see Mosmann and Coffman, *Ann. Rev. Immunol.* 7:145-173, 1989.

Preferred adjuvants for use in eliciting a predominantly Th1-type response include, for example, a combination of monophosphoryl lipid A, preferably 3-de-O-acylated monophosphoryl lipid A (3D-MPL), together with an aluminum salt. MPL adjuvants are available from Ribi ImmunoChem Research Inc. (Hamilton, MT; *see* US Patent Nos. 4,436,727; 4,877,611; 4,866,034 and 4,912,094). CpG-containing oligonucleotides (in which the CpG dinucleotide is unmethylated) also induce a predominantly Th1 response. Such oligonucleotides are well known and are described, for example, in WO 96/02555. Another preferred adjuvant is a saponin, preferably QS21, which may be used alone or in combination with other adjuvants. For example, an enhanced system involves the combination of a monophosphoryl lipid A and saponin derivative, such as the combination of QS21 and 3D-MPL as described in WO 94/00153, or a less reactogenic composition where the QS21 is

quenched with cholesterol, as described in WO 96/33739. Other preferred formulations comprises an oil-in-water emulsion and tocopherol. A particularly potent adjuvant formulation involving QS21, 3D-MPL and tocopherol in an oil-in-water emulsion is described in WO 95/17210. Any vaccine provided herein may be prepared using well known methods that result in a combination of antigen, immune response enhancer and a suitable carrier or excipient.

The compositions described herein may be administered as part of a sustained release formulation (*i.e.*, a formulation such as a capsule or sponge that effects a slow release of compound following administration). Such formulations may generally be prepared using well known technology and administered by, for example, oral, rectal or subcutaneous implantation, or by implantation at the desired target site. Sustained-release formulations may contain a polypeptide, polynucleotide or antibody dispersed in a carrier matrix and/or contained within a reservoir surrounded by a rate controlling membrane. Carriers for use within such formulations are biocompatible, and may also be biodegradable; preferably the formulation provides a relatively constant level of active component release. The amount of active compound contained within a sustained release formulation depends upon the site of implantation, the rate and expected duration of release and the nature of the condition to be treated or prevented.

Any of a variety of delivery vehicles may be employed within pharmaceutical compositions and vaccines to facilitate production of an antigen-specific immune response that targets tumor cells. Delivery vehicles include antigen presenting cells (APCs), such as dendritic cells, macrophages, B cells, monocytes and other cells that may be engineered to be efficient APCs. Such cells may, but need not, be genetically modified to increase the capacity for presenting the antigen, to improve activation and/or maintenance of the T cell response, to have anti-tumor effects *per se* and/or to be immunologically compatible with the receiver (*i.e.*, matched HLA haplotype). APCs may generally be isolated from any of a variety of biological fluids and organs, including tumor and peritumoral tissues, and may be autologous, allogeneic, syngeneic or xenogeneic cells.

Certain preferred embodiments of the present invention use dendritic cells or progenitors thereof as antigen-presenting cells. Dendritic cells are highly potent APCs (Banchereau and Steinman, *Nature* 392:245-251, 1998) and have been shown to be effective as a physiological adjuvant for eliciting prophylactic or therapeutic antitumor immunity (*see* Timmerman and Levy, *Ann. Rev. Med.* 50:507-529, 1999). In general, dendritic cells may be identified based on their typical shape (stellate *in situ*, with marked cytoplasmic processes (dendrites) visible *in vitro*) and based on the lack of differentiation markers of B cells (CD19 and CD20), T cells (CD3), monocytes (CD14) and natural killer cells (CD56), as determined using standard assays. Dendritic cells may, of course, be engineered to express specific cell-

surface receptors or ligands that are not commonly found on dendritic cells *in vivo* or *ex vivo*, and such modified dendritic cells are contemplated by the present invention. As an alternative to dendritic cells, secreted vesicles antigen-loaded dendritic cells (called exosomes) may be used within a vaccine (*see* Zitvogel et al., *Nature Med.* 4:594-600, 1998).

Dendritic cells and progenitors may be obtained from peripheral blood, bone marrow, tumor-infiltrating cells, peritumoral tissues-infiltrating cells, lymph nodes, spleen, skin, umbilical cord blood or any other suitable tissue or fluid. For example, dendritic cells may be differentiated *ex vivo* by adding a combination of cytokines such as GM-CSF, IL-4, IL-13 and/or TNF $\alpha$  to cultures of monocytes harvested from peripheral blood. Alternatively, CD34 positive cells harvested from peripheral blood, umbilical cord blood or bone marrow may be differentiated into dendritic cells by adding to the culture medium combinations of GM-CSF, IL-3, TNF $\alpha$ , CD40 ligand, LPS, flt3 ligand and/or other compound(s) that induce maturation and proliferation of dendritic cells.

Dendritic cells are conveniently categorized as "immature" and "mature" cells, which allows a simple way to discriminate between two well characterized phenotypes. However, this nomenclature should not be construed to exclude all possible intermediate stages of differentiation. Immature dendritic cells are characterized as APC with a high capacity for antigen uptake and processing, which correlates with the high expression of Fc $\gamma$  receptor, mannose receptor and DEC-205 marker. The mature phenotype is typically characterized by a lower expression of these markers, but a high expression of cell surface molecules responsible for T cell activation such as class I and class II MHC, adhesion molecules (*e.g.*, CD54 and CD11) and costimulatory molecules (*e.g.*, CD40, CD80 and CD86).

APCs may generally be transfected with a polynucleotide encoding a prostate tumor protein (or portion or other variant thereof) such that the prostate tumor polypeptide, or an immunogenic portion thereof, is expressed on the cell surface. Such transfection may take place *ex vivo*, and a composition or vaccine comprising such transfected cells may then be used for therapeutic purposes, as described herein. Alternatively, a gene delivery vehicle that targets a dendritic or other antigen presenting cell may be administered to a patient, resulting in transfection that occurs *in vivo*. *In vivo* and *ex vivo* transfection of dendritic cells, for example, may generally be performed using any methods known in the art, such as those described in WO 97/24447, or the gene gun approach described by Mahvi et al., *Immunology and cell Biology* 75:456-460, 1997. Antigen loading of dendritic cells may be achieved by incubating dendritic cells or progenitor cells with the prostate tumor polypeptide, DNA (naked or within a plasmid vector) or RNA; or with antigen-expressing recombinant bacterium or viruses (*e.g.*, vaccinia, fowlpox, adenovirus or lentivirus vectors). Prior to loading, the polypeptide may be covalently conjugated to an immunological partner that

provides T cell help (e.g., a carrier molecule). Alternatively, a dendritic cell may be pulsed with a non-conjugated immunological partner, separately or in the presence of the polypeptide.

#### CANCER THERAPY

In further aspects of the present invention, the compositions described herein may be used for immunotherapy of cancer, such as prostate cancer. Within such methods, pharmaceutical compositions and vaccines are typically administered to a patient. As used herein, a "patient" refers to any warm-blooded animal, preferably a human. A patient may or may not be afflicted with cancer. Accordingly, the above pharmaceutical compositions and vaccines may be used to prevent the development of a cancer or to treat a patient afflicted with a cancer. A cancer may be diagnosed using criteria generally accepted in the art, including the presence of a malignant tumor. Pharmaceutical compositions and vaccines may be administered either prior to or following surgical removal of primary tumors and/or treatment such as administration of radiotherapy or conventional chemotherapeutic drugs.

Within certain embodiments, immunotherapy may be active immunotherapy, in which treatment relies on the *in vivo* stimulation of the endogenous host immune system to react against tumors with the administration of immune response-modifying agents (such as polypeptides and polynucleotides disclosed herein).

Within other embodiments, immunotherapy may be passive immunotherapy, in which treatment involves the delivery of agents with established tumor-immune reactivity (such as effector cells or antibodies) that can directly or indirectly mediate antitumor effects and does not necessarily depend on an intact host immune system. Examples of effector cells include T cells as discussed above, T lymphocytes (such as CD8<sup>+</sup> cytotoxic T lymphocytes and CD4<sup>+</sup> T-helper tumor-infiltrating lymphocytes), killer cells (such as Natural Killer cells and lymphokine-activated killer cells), B cells and antigen-presenting cells (such as dendritic cells and macrophages) expressing a polypeptide provided herein. T cell receptors and antibody receptors specific for the polypeptides recited herein may be cloned, expressed and transferred into other vectors or effector cells for adoptive immunotherapy. The polypeptides provided herein may also be used to generate antibodies or anti-idiotypic antibodies (as described above and in U.S. Patent No. 4,918,164) for passive immunotherapy.

Effector cells may generally be obtained in sufficient quantities for adoptive immunotherapy by growth *in vitro*, as described herein. Culture conditions for expanding single antigen-specific effector cells to several billion in number with retention of antigen recognition *in vivo* are well known in the art. Such *in vitro* culture conditions typically use intermittent stimulation with antigen, often in the presence of cytokines (such as IL-2) and non-dividing feeder cells. As noted above, immunoreactive polypeptides as provided herein

may be used to rapidly expand antigen-specific T cell cultures in order to generate a sufficient number of cells for immunotherapy. In particular, antigen-presenting cells, such as dendritic, macrophage, monocyte, fibroblast or B cells, may be pulsed with immunoreactive polypeptides or transfected with one or more polynucleotides using standard techniques well known in the art. For example, antigen-presenting cells can be transfected with a polynucleotide having a promoter appropriate for increasing expression in a recombinant virus or other expression system. Cultured effector cells for use in therapy must be able to grow and distribute widely, and to survive long term *in vivo*. Studies have shown that cultured effector cells can be induced to grow *in vivo* and to survive long term in substantial numbers by repeated stimulation with antigen supplemented with IL-2 (*see, for example, Cheever et al., Immunological Reviews 157:177, 1997*).

Alternatively, a vector expressing a polypeptide recited herein may be introduced into antigen presenting cells taken from a patient and clonally propagated *ex vivo* for transplant back into the same patient. Transfected cells may be reintroduced into the patient using any means known in the art, preferably in sterile form by intravenous, intracavitary, intraperitoneal or intratumor administration.

Routes and frequency of administration of the therapeutic compositions disclosed herein, as well as dosage, will vary from individual to individual, and may be readily established using standard techniques. In general, the pharmaceutical compositions and vaccines may be administered by injection (*e.g.*, intracutaneous, intramuscular, intravenous or subcutaneous), intranasally (*e.g.*, by aspiration) or orally. Preferably, between 1 and 10 doses may be administered over a 52 week period. Preferably, 6 doses are administered, at intervals of 1 month, and booster vaccinations may be given periodically thereafter. Alternate protocols may be appropriate for individual patients. A suitable dose is an amount of a compound that, when administered as described above, is capable of promoting an anti-tumor immune response, and is at least 10-50% above the basal (*i.e.*, untreated) level. Such response can be monitored by measuring the anti-tumor antibodies in a patient or by vaccine-dependent generation of cytolytic effector cells capable of killing the patient's tumor cells *in vitro*. Such vaccines should also be capable of causing an immune response that leads to an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial or longer disease-free survival) in vaccinated patients as compared to non-vaccinated patients. In general, for pharmaceutical compositions and vaccines comprising one or more polypeptides, the amount of each polypeptide present in a dose ranges from about 100 µg to 5 mg per kg of host. Suitable dose sizes will vary with the size of the patient, but will typically range from about 0.1 mL to about 5 mL.

In general, an appropriate dosage and treatment regimen provides the active compound(s) in an amount sufficient to provide therapeutic and/or prophylactic benefit. Such

a response can be monitored by establishing an improved clinical outcome (e.g., more frequent remissions, complete or partial, or longer disease-free survival) in treated patients as compared to non-treated patients. Increases in preexisting immune responses to a prostate tumor protein generally correlate with an improved clinical outcome. Such immune responses may generally be evaluated using standard proliferation, cytotoxicity or cytokine assays, which may be performed using samples obtained from a patient before and after treatment.

#### METHODS FOR DETECTING CANCER

In general, a cancer may be detected in a patient based on the presence of one or more prostate tumor proteins and/or polynucleotides encoding such proteins in a biological sample (for example, blood, sera, urine and/or tumor biopsies) obtained from the patient. In other words, such proteins may be used as markers to indicate the presence or absence of a cancer such as prostate cancer. In addition, such proteins may be useful for the detection of other cancers. The binding agents provided herein generally permit detection of the level of antigen that binds to the agent in the biological sample. Polynucleotide primers and probes may be used to detect the level of mRNA encoding a tumor protein, which is also indicative of the presence or absence of a cancer. In general, a prostate tumor sequence should be present at a level that is at least three fold higher in tumor tissue than in normal tissue

There are a variety of assay formats known to those of ordinary skill in the art for using a binding agent to detect polypeptide markers in a sample. See, e.g., Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, the presence or absence of a cancer in a patient may be determined by (a) contacting a biological sample obtained from a patient with a binding agent; (b) detecting in the sample a level of polypeptide that binds to the binding agent; and (c) comparing the level of polypeptide with a predetermined cut-off value.

In a preferred embodiment, the assay involves the use of binding agent immobilized on a solid support to bind to and remove the polypeptide from the remainder of the sample. The bound polypeptide may then be detected using a detection reagent that contains a reporter group and specifically binds to the binding agent/polypeptide complex. Such detection reagents may comprise, for example, a binding agent that specifically binds to the polypeptide or an antibody or other agent that specifically binds to the binding agent, such as an anti-immunoglobulin, protein G, protein A or a lectin. Alternatively, a competitive assay may be utilized, in which a polypeptide is labeled with a reporter group and allowed to bind to the immobilized binding agent after incubation of the binding agent with the sample. The extent to which components of the sample inhibit the binding of the labeled polypeptide to the binding agent is indicative of the reactivity of the sample with the immobilized binding

agent. Suitable polypeptides for use within such assays include full length prostate tumor proteins and portions thereof to which the binding agent binds, as described above.

The solid support may be any material known to those of ordinary skill in the art to which the tumor protein may be attached. For example, the solid support may be a test well in a microtiter plate or a nitrocellulose or other suitable membrane. Alternatively, the support may be a bead or disc, such as glass, fiberglass, latex or a plastic material such as polystyrene or polyvinylchloride. The support may also be a magnetic particle or a fiber optic sensor, such as those disclosed, for example, in U.S. Patent No. 5,359,681. The binding agent may be immobilized on the solid support using a variety of techniques known to those of skill in the art, which are amply described in the patent and scientific literature. In the context of the present invention, the term "immobilization" refers to both noncovalent association, such as adsorption, and covalent attachment (which may be a direct linkage between the agent and functional groups on the support or may be a linkage by way of a cross-linking agent). Immobilization by adsorption to a well in a microtiter plate or to a membrane is preferred. In such cases, adsorption may be achieved by contacting the binding agent, in a suitable buffer, with the solid support for a suitable amount of time. The contact time varies with temperature, but is typically between about 1 hour and about 1 day. In general, contacting a well of a plastic microtiter plate (such as polystyrene or polyvinylchloride) with an amount of binding agent ranging from about 10 ng to about 10  $\mu$ g, and preferably about 100 ng to about 1  $\mu$ g, is sufficient to immobilize an adequate amount of binding agent.

Covalent attachment of binding agent to a solid support may generally be achieved by first reacting the support with a bifunctional reagent that will react with both the support and a functional group, such as a hydroxyl or amino group, on the binding agent. For example, the binding agent may be covalently attached to supports having an appropriate polymer coating using benzoquinone or by condensation of an aldehyde group on the support with an amine and an active hydrogen on the binding partner (*see, e.g.*, Pierce Immunotechnology Catalog and Handbook, 1991, at A12-A13).

In certain embodiments, the assay is a two-antibody sandwich assay. This assay may be performed by first contacting an antibody that has been immobilized on a solid support, commonly the well of a microtiter plate, with the sample, such that polypeptides within the sample are allowed to bind to the immobilized antibody. Unbound sample is then removed from the immobilized polypeptide-antibody complexes and a detection reagent (preferably a second antibody capable of binding to a different site on the polypeptide) containing a reporter group is added. The amount of detection reagent that remains bound to the solid support is then determined using a method appropriate for the specific reporter group.



More specifically, once the antibody is immobilized on the support as described above, the remaining protein binding sites on the support are typically blocked. Any suitable blocking agent known to those of ordinary skill in the art, such as bovine serum albumin or Tween 20™ (Sigma Chemical Co., St. Louis, MO). The immobilized antibody is then incubated with the sample, and polypeptide is allowed to bind to the antibody. The sample may be diluted with a suitable diluent, such as phosphate-buffered saline (PBS) prior to incubation. In general, an appropriate contact time (*i.e.*, incubation time) is a period of time that is sufficient to detect the presence of polypeptide within a sample obtained from an individual with prostate cancer. Preferably, the contact time is sufficient to achieve a level of binding that is at least about 95% of that achieved at equilibrium between bound and unbound polypeptide. Those of ordinary skill in the art will recognize that the time necessary to achieve equilibrium may be readily determined by assaying the level of binding that occurs over a period of time. At room temperature, an incubation time of about 30 minutes is generally sufficient.

Unbound sample may then be removed by washing the solid support with an appropriate buffer, such as PBS containing 0.1% Tween 20™. The second antibody, which contains a reporter group, may then be added to the solid support. Preferred reporter groups include those groups recited above.

The detection reagent is then incubated with the immobilized antibody-polypeptide complex for an amount of time sufficient to detect the bound polypeptide. An appropriate amount of time may generally be determined by assaying the level of binding that occurs over a period of time. Unbound detection reagent is then removed and bound detection reagent is detected using the reporter group. The method employed for detecting the reporter group depends upon the nature of the reporter group. For radioactive groups, scintillation counting or autoradiographic methods are generally appropriate. Spectroscopic methods may be used to detect dyes, luminescent groups and fluorescent groups. Biotin may be detected using avidin, coupled to a different reporter group (commonly a radioactive or fluorescent group or an enzyme). Enzyme reporter groups may generally be detected by the addition of substrate (generally for a specific period of time), followed by spectroscopic or other analysis of the reaction products.

To determine the presence or absence of a cancer, such as prostate cancer, the signal detected from the reporter group that remains bound to the solid support is generally compared to a signal that corresponds to a predetermined cut-off value. In one preferred embodiment, the cut-off value for the detection of a cancer is the average mean signal obtained when the immobilized antibody is incubated with samples from patients without the cancer. In general, a sample generating a signal that is three standard deviations above the predetermined cut-off value is considered positive for the cancer. In an alternate preferred

embodiment, the cut-off value is determined using a Receiver Operator Curve, according to the method of Sackett et al., *Clinical Epidemiology: A Basic Science for Clinical Medicine*, Little Brown and Co., 1985, p. 106-7. Briefly, in this embodiment, the cut-off value may be determined from a plot of pairs of true positive rates (*i.e.*, sensitivity) and false positive rates (100%-specificity) that correspond to each possible cut-off value for the diagnostic test result. The cut-off value on the plot that is the closest to the upper left-hand corner (*i.e.*, the value that encloses the largest area) is the most accurate cut-off value, and a sample generating a signal that is higher than the cut-off value determined by this method may be considered positive. Alternatively, the cut-off value may be shifted to the left along the plot, to minimize the false positive rate, or to the right, to minimize the false negative rate. In general, a sample generating a signal that is higher than the cut-off value determined by this method is considered positive for a cancer.

In a related embodiment, the assay is performed in a flow-through or strip test format, wherein the binding agent is immobilized on a membrane, such as nitrocellulose. In the flow-through test, polypeptides within the sample bind to the immobilized binding agent as the sample passes through the membrane. A second, labeled binding agent then binds to the binding agent-polypeptide complex as a solution containing the second binding agent flows through the membrane. The detection of bound second binding agent may then be performed as described above. In the strip test format, one end of the membrane to which binding agent is bound is immersed in a solution containing the sample. The sample migrates along the membrane through a region containing second binding agent and to the area of immobilized binding agent. Concentration of second binding agent at the area of immobilized antibody indicates the presence of a cancer. Typically, the concentration of second binding agent at that site generates a pattern, such as a line, that can be read visually. The absence of such a pattern indicates a negative result. In general, the amount of binding agent immobilized on the membrane is selected to generate a visually discernible pattern when the biological sample contains a level of polypeptide that would be sufficient to generate a positive signal in the two-antibody sandwich assay, in the format discussed above. Preferred binding agents for use in such assays are antibodies and antigen-binding fragments thereof. Preferably, the amount of antibody immobilized on the membrane ranges from about 25 ng to about 1  $\mu$ g, and more preferably from about 50 ng to about 500 ng. Such tests can typically be performed with a very small amount of biological sample.

Of course, numerous other assay protocols exist that are suitable for use with the tumor proteins or binding agents of the present invention. The above descriptions are intended to be exemplary only. For example, it will be apparent to those of ordinary skill in the art that the above protocols may be readily modified to use prostate tumor polypeptides to

detect antibodies that bind to such polypeptides in a biological sample. The detection of such prostate tumor protein specific antibodies may correlate with the presence of a cancer.

A cancer may also, or alternatively, be detected based on the presence of T cells that specifically react with a prostate tumor protein in a biological sample. Within certain methods, a biological sample comprising CD4<sup>+</sup> and/or CD8<sup>+</sup> T cells isolated from a patient is incubated with a prostate tumor polypeptide, a polynucleotide encoding such a polypeptide and/or an APC that expresses at least an immunogenic portion of such a polypeptide, and the presence or absence of specific activation of the T cells is detected. Suitable biological samples include, but are not limited to, isolated T cells. For example, T cells may be isolated from a patient by routine techniques (such as by Ficoll/Hypaque density gradient centrifugation of peripheral blood lymphocytes). T cells may be incubated *in vitro* for 2-9 days (typically 4 days) at 37°C with prostate tumor polypeptide (*e.g.*, 5 - 25 µg/ml). It may be desirable to incubate another aliquot of a T cell sample in the absence of prostate tumor polypeptide to serve as a control. For CD4<sup>+</sup> T cells, activation is preferably detected by evaluating proliferation of the T cells. For CD8<sup>+</sup> T cells, activation is preferably detected by evaluating cytolytic activity. A level of proliferation that is at least two fold greater and/or a level of cytolytic activity that is at least 20% greater than in disease-free patients indicates the presence of a cancer in the patient.

As noted above, a cancer may also, or alternatively, be detected based on the level of mRNA encoding a prostate tumor protein in a biological sample. For example, at least two oligonucleotide primers may be employed in a polymerase chain reaction (PCR) based assay to amplify a portion of a prostate tumor cDNA derived from a biological sample, wherein at least one of the oligonucleotide primers is specific for (*i.e.*, hybridizes to) a polynucleotide encoding the prostate tumor protein. The amplified cDNA is then separated and detected using techniques well known in the art, such as gel electrophoresis. Similarly, oligonucleotide probes that specifically hybridize to a polynucleotide encoding a prostate tumor protein may be used in a hybridization assay to detect the presence of polynucleotide encoding the tumor protein in a biological sample.

To permit hybridization under assay conditions, oligonucleotide primers and probes should comprise an oligonucleotide sequence that has at least about 60%, preferably at least about 75% and more preferably at least about 90%, identity to a portion of a polynucleotide encoding a prostate tumor protein that is at least 10 nucleotides, and preferably at least 20 nucleotides, in length. Preferably, oligonucleotide primers and/or probes will hybridize to a polynucleotide encoding a polypeptide disclosed herein under moderately stringent conditions, as defined above. Oligonucleotide primers and/or probes which may be usefully employed in the diagnostic methods described herein preferably are at least 10-40 nucleotides in length. In a preferred embodiment, the oligonucleotide primers

comprise at least 10 contiguous nucleotides, more preferably at least 15 contiguous nucleotides, of a DNA molecule having a sequence recited in SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375 and 381. Techniques for both PCR based assays and hybridization assays are well known in the art (*see, for example, Mullis et al., Cold Spring Harbor Symp. Quant. Biol., 51:263, 1987; Erlich ed., PCR Technology, Stockton Press, NY, 1989*).

One preferred assay employs RT-PCR, in which PCR is applied in conjunction with reverse transcription. Typically, RNA is extracted from a biological sample, such as biopsy tissue, and is reverse transcribed to produce cDNA molecules. PCR amplification using at least one specific primer generates a cDNA molecule, which may be separated and visualized using, for example, gel electrophoresis. Amplification may be performed on biological samples taken from a test patient and from an individual who is not afflicted with a cancer. The amplification reaction may be performed on several dilutions of cDNA spanning two orders of magnitude. A two-fold or greater increase in expression in several dilutions of the test patient sample as compared to the same dilutions of the non-cancerous sample is typically considered positive.

In another embodiment, the disclosed compositions may be used as markers for the progression of cancer. In this embodiment, assays as described above for the diagnosis of a cancer may be performed over time, and the change in the level of reactive polypeptide(s) or polynucleotide evaluated. For example, the assays may be performed every 24-72 hours for a period of 6 months to 1 year, and thereafter performed as needed. In general, a cancer is progressing in those patients in whom the level of polypeptide or polynucleotide detected increases over time. In contrast, the cancer is not progressing when the level of reactive polypeptide or polynucleotide either remains constant or decreases with time.

Certain *in vivo* diagnostic assays may be performed directly on a tumor. One such assay involves contacting tumor cells with a binding agent. The bound binding agent may then be detected directly or indirectly via a reporter group. Such binding agents may also be used in histological applications. Alternatively, polynucleotide probes may be used within such applications.

As noted above, to improve sensitivity, multiple prostate tumor protein markers may be assayed within a given sample. It will be apparent that binding agents specific for different proteins provided herein may be combined within a single assay. Further, multiple primers or probes may be used concurrently. The selection of tumor protein markers may be based on routine experiments to determine combinations that results in optimal sensitivity. In addition, or alternatively, assays for tumor proteins provided herein may be combined with assays for other known tumor antigens.

## DIAGNOSTIC KITS

The present invention further provides kits for use within any of the above diagnostic methods. Such kits typically comprise two or more components necessary for performing a diagnostic assay. Components may be compounds, reagents, containers and/or equipment. For example, one container within a kit may contain a monoclonal antibody or fragment thereof that specifically binds to a prostate tumor protein. Such antibodies or fragments may be provided attached to a support material, as described above. One or more additional containers may enclose elements, such as reagents or buffers, to be used in the assay. Such kits may also, or alternatively, contain a detection reagent as described above that contains a reporter group suitable for direct or indirect detection of antibody binding.

Alternatively, a kit may be designed to detect the level of mRNA encoding a prostate tumor protein in a biological sample. Such kits generally comprise at least one oligonucleotide probe or primer, as described above, that hybridizes to a polynucleotide encoding a prostate tumor protein. Such an oligonucleotide may be used, for example, within a PCR or hybridization assay. Additional components that may be present within such kits include a second oligonucleotide and/or a diagnostic reagent or container to facilitate the detection of a polynucleotide encoding a prostate tumor protein.

The following Examples are offered by way of illustration and not by way of limitation.

## EXAMPLES

### EXAMPLE 1

#### ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES

This Example describes the isolation of certain prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library was constructed from prostate tumor poly A<sup>+</sup> RNA using a Superscript Plasmid System for cDNA Synthesis and Plasmid Cloning kit (BRL Life Technologies, Gaithersburg, MD 20897) following the manufacturer's protocol. Specifically, prostate tumor tissues were homogenized with polytron (Kinematica, Switzerland) and total RNA was extracted using Trizol reagent (BRL Life Technologies) as directed by the manufacturer. The poly A<sup>+</sup> RNA was then purified using a Qiagen oligotex spin column mRNA purification kit (Qiagen, Santa Clarita, CA 91355) according to the manufacturer's protocol. First-strand cDNA was synthesized using the NotI/Oligo-dT18 primer. Double-stranded cDNA was synthesized, ligated with EcoRI/BAXI adaptors (Invitrogen, San Diego, CA) and digested with NotI. Following size fractionation with Chroma Spin-1000 columns (Clontech, Palo Alto, CA), the cDNA was ligated into the EcoRI/NotI site of pCDNA3.1 (Invitrogen) and transformed into ElectroMax *E. coli* DH10B cells (BRL Life Technologies) by electroporation.

Using the same procedure, a normal human pancreas cDNA expression library was prepared from a pool of six tissue specimens (Clontech). The cDNA libraries were characterized by determining the number of independent colonies, the percentage of clones that carried insert, the average insert size and by sequence analysis. The prostate tumor library contained  $1.64 \times 10^7$  independent colonies, with 70% of clones having an insert and the average insert size being 1745 base pairs. The normal pancreas cDNA library contained  $3.3 \times 10^6$  independent colonies, with 69% of clones having inserts and the average insert size being 1120 base pairs. For both libraries, sequence analysis showed that the majority of clones had a full length cDNA sequence and were synthesized from mRNA, with minimal rRNA and mitochondrial DNA contamination.

cDNA library subtraction was performed using the above prostate tumor and normal pancreas cDNA libraries, as described by Hara *et al.* (*Blood*, 84:189-199, 1994) with some modifications. Specifically, a prostate tumor-specific subtracted cDNA library was generated as follows. Normal pancreas cDNA library (70  $\mu$ g) was digested with EcoRI, NotI, and SfuI, followed by a filling-in reaction with DNA polymerase Klenow fragment. After phenol-chloroform extraction and ethanol precipitation, the DNA was dissolved in 100  $\mu$ l of

H<sub>2</sub>O, heat-denatured and mixed with 100 µl (100 µg) of Photoprobe biotin (Vector Laboratories, Burlingame, CA). As recommended by the manufacturer, the resulting mixture was irradiated with a 270 W sunlamp on ice for 20 minutes. Additional Photoprobe biotin (50 µl) was added and the biotinylation reaction was repeated. After extraction with butanol five times, the DNA was ethanol-precipitated and dissolved in 23 µl H<sub>2</sub>O to form the driver DNA.

To form the tracer DNA, 10 µg prostate tumor cDNA library was digested with BamHI and XhoI, phenol chloroform extracted and passed through Chroma spin-400 columns (Clontech). Following ethanol precipitation, the tracer DNA was dissolved in 5 µl H<sub>2</sub>O. Tracer DNA was mixed with 15 µl driver DNA and 20 µl of 2 x hybridization buffer (1.5 M NaCl/10 mM EDTA/50 mM HEPES pH 7.5/0.2% sodium dodecyl sulfate), overlaid with mineral oil, and heat-denatured completely. The sample was immediately transferred into a 68 °C water bath and incubated for 20 hours (long hybridization [LH]). The reaction mixture was then subjected to a streptavidin treatment followed by phenol/chloroform extraction. This process was repeated three more times. Subtracted DNA was precipitated, dissolved in 12 µl H<sub>2</sub>O, mixed with 8 µl driver DNA and 20 µl of 2 x hybridization buffer, and subjected to a hybridization at 68 °C for 2 hours (short hybridization [SH]). After removal of biotinylated double-stranded DNA, subtracted cDNA was ligated into BamHI/XhoI site of chloramphenicol resistant pBCSK<sup>+</sup> (Stratagene, La Jolla, CA 92037) and transformed into ElectroMax *E. coli* DH10B cells by electroporation to generate a prostate tumor specific subtracted cDNA library (referred to as "prostate subtraction 1").

To analyze the subtracted cDNA library, plasmid DNA was prepared from 100 independent clones, randomly picked from the subtracted prostate tumor specific library and grouped based on insert size. Representative cDNA clones were further characterized by DNA sequencing with a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A (Foster City, CA). Six cDNA clones, hereinafter referred to as F1-13, F1-12, F1-16, H1-1, H1-9 and H1-4, were shown to be abundant in the subtracted prostate-specific cDNA library. The determined 3' and 5' cDNA sequences for F1-12 are provided in SEQ ID NO: 2 and 3, respectively, with determined 3' cDNA sequences for F1-13, F1-16, H1-1, H1-9 and H1-4 being provided in SEQ ID NO: 1 and 4-7, respectively.

The cDNA sequences for the isolated clones were compared to known sequences in the gene bank using the EMBL and GenBank databases (release 96). Four of the prostate tumor cDNA clones, F1-13, F1-16, H1-1, and H1-4, were determined to encode the following previously identified proteins: prostate specific antigen (PSA), human glandular kallikrein, human tumor expression enhanced gene, and mitochondria cytochrome C oxidase subunit II. H1-9 was found to be identical to a previously identified human

autonomously replicating sequence. No significant homologies to the cDNA sequence for F1-12 were found.

Subsequent studies led to the isolation of a full-length cDNA sequence for F1-12. This sequence is provided in SEQ ID NO: 107, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 108.

To clone less abundant prostate tumor specific genes, cDNA library subtraction was performed by subtracting the prostate tumor cDNA library described above with the normal pancreas cDNA library and with the three most abundant genes in the previously subtracted prostate tumor specific cDNA library: human glandular kallikrein, prostate specific antigen (PSA), and mitochondria cytochrome C oxidase subunit II. Specifically, 1 µg each of human glandular kallikrein, PSA and mitochondria cytochrome C oxidase subunit II cDNAs in pCDNA3.1 were added to the driver DNA and subtraction was performed as described above to provide a second subtracted cDNA library hereinafter referred to as the "subtracted prostate tumor specific cDNA library with spike".

Twenty-two cDNA clones were isolated from the subtracted prostate tumor specific cDNA library with spike. The determined 3' and 5' cDNA sequences for the clones referred to as J1-17, L1-12, N1-1862, J1-13, J1-19, J1-25, J1-24, K1-58, K1-63, L1-4 and L1-14 are provided in SEQ ID NOS: 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-21, 22-23, 24-25, 26-27 and 28-29, respectively. The determined 3' cDNA sequences for the clones referred to as J1-12, J1-16, J1-21, K1-48, K1-55, L1-2, L1-6, N1-1858, N1-1860, N1-1861, N1-1864 are provided in SEQ ID NOS: 30-40, respectively. Comparison of these sequences with those in the gene bank as described above, revealed no significant homologies to three of the five most abundant DNA species, (J1-17, L1-12 and N1-1862; SEQ ID NOS: 8-9, 10-11 and 12-13, respectively). Of the remaining two most abundant species, one (J1-12; SEQ ID NO:30) was found to be identical to the previously identified human pulmonary surfactant-associated protein, and the other (K1-48; SEQ ID NO:33) was determined to have some homology to *R. norvegicus* mRNA for 2-arylpropionyl-CoA epimerase. Of the 17 less abundant cDNA clones isolated from the subtracted prostate tumor specific cDNA library with spike, four (J1-16, K1-55, L1-6 and N1-1864; SEQ ID NOS:31, 34, 36 and 40, respectively) were found to be identical to previously identified sequences, two (J1-21 and N1-1860; SEQ ID NOS: 32 and 38, respectively) were found to show some homology to non-human sequences, and two (L1-2 and N1-1861; SEQ ID NOS: 35 and 39, respectively) were found to show some homology to known human sequences. No significant homologies were found to the polypeptides J1-13, J1-19, J1-24, J1-25, K1-58, K1-63, L1-4, L1-14 (SEQ ID NOS: 14-15, 16-17, 20-21, 18-19, 22-23, 24-25, 26-27, 28-29, respectively).

Subsequent studies led to the isolation of full length cDNA sequences for J1-17, L1-12 and N1-1862 (SEQ ID NOS: 109-111, respectively). The corresponding predicted



amino acid sequences are provided in SEQ ID NOS: 112-114. L1-12 is also referred to as P501S.

In a further experiment, four additional clones were identified by subtracting a prostate tumor cDNA library with normal prostate cDNA prepared from a pool of three normal prostate poly A+ RNA (referred to as "prostate subtraction 2"). The determined cDNA sequences for these clones, hereinafter referred to as U1-3064, U1-3065, V1-3692 and 1A-3905, are provided in SEQ ID NO: 69-72, respectively. Comparison of the determined sequences with those in the gene bank revealed no significant homologies to U1-3065.

A second subtraction with spike (referred to as "prostate subtraction spike 2") was performed by subtracting a prostate tumor specific cDNA library with spike with normal pancreas cDNA library and further spiked with PSA, J1-17, pulmonary surfactant-associated protein, mitochondrial DNA, cytochrome c oxidase subunit II, N1-1862, autonomously replicating sequence, L1-12 and tumor expression enhanced gene. Four additional clones, hereinafter referred to as V1-3686, R1-2330, 1B-3976 and V1-3679, were isolated. The determined cDNA sequences for these clones are provided in SEQ ID NO: 73-76, respectively. Comparison of these sequences with those in the gene bank revealed no significant homologies to V1-3686 and R1-2330.

Further analysis of the three prostate subtractions described above (prostate subtraction 2, subtracted prostate tumor specific cDNA library with spike, and prostate subtraction spike 2) resulted in the identification of sixteen additional clones, referred to as 1G-4736, 1G-4738, 1G-4741, 1G-4744, 1G-4734, 1H-4774, 1H-4781, 1H-4785, 1H-4787, 1H-4796, 1I-4810, 1I-4811, 1J-4876, 1K-4884 and 1K-4896. The determined cDNA sequences for these clones are provided in SEQ ID NOS: 77-92, respectively. Comparison of these sequences with those in the gene bank as described above, revealed no significant homologies to 1G-4741, 1G-4734, 1I-4807, 1J-4876 and 1K-4896 (SEQ ID NOS: 79, 81, 87, 90 and 92, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1G-4736, 1G-4738, 1G-4741, 1G-4744, 1H-4774, 1H-4781, 1H-4785, 1H-4787, 1H-4796, 1I-4807, 1J-4876, 1K-4884 and 1K-4896, provided in SEQ ID NOS: 179-188 and 191-193, respectively, and to the determination of additional partial cDNA sequences for 1I-4810 and 1I-4811, provided in SEQ ID NOS: 189 and 190, respectively.

Additional studies with prostate subtraction spike 2 resulted in the isolation of three more clones. Their sequences were determined as described above and compared to the most recent GenBank. All three clones were found to have homology to known genes, which are Cysteine-rich protein, KIAA0242, and KIAA0280 (SEQ ID NO: 317, 319, and 320, respectively). Further analysis of these clones by Synteni microarray (Synteni, Palo Alto, CA) demonstrated that all three clones were over-expressed in most prostate tumors and

prostate BPH, as well as in the majority of normal prostate tissues tested, but low expression in all other normal tissues.

An additional subtraction was performed by subtracting a normal prostate cDNA library with normal pancreas cDNA (referred to as "prostate subtraction 3"). This led to the identification of six additional clones referred to as 1G-4761, 1G-4762, 1H-4766, 1H-4770, 1H-4771 and 1H-4772 (SEQ ID NOS: 93-98). Comparison of these sequences with those in the gene bank revealed no significant homologies to 1G-4761 and 1H-4771 (SEQ ID NOS: 93 and 97, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1G-4761, 1G-4762, 1H-4766 and 1H-4772 provided in SEQ ID NOS: 194-196 and 199, respectively, and to the determination of additional partial cDNA sequences for 1H-4770 and 1H-4771, provided in SEQ ID NOS: 197 and 198, respectively.

Subtraction of a prostate tumor cDNA library, prepared from a pool of polyA+ RNA from three prostate cancer patients, with a normal pancreas cDNA library (prostate subtraction 4) led to the identification of eight clones, referred to as 1D-4297, 1D-4309, 1D.1-4278, 1D-4288, 1D-4283, 1D-4304, 1D-4296 and 1D-4280 (SEQ ID NOS: 99-107). These sequences were compared to those in the gene bank as described above. No significant homologies were found to 1D-4283 and 1D-4304 (SEQ ID NOS: 103 and 104, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1D-4309, 1D.1-4278, 1D-4288, 1D-4283, 1D-4304, 1D-4296 and 1D-4280, provided in SEQ ID NOS: 200-206, respectively.

cDNA clones isolated in prostate subtraction 1 and prostate subtraction 2, described above, were colony PCR amplified and their mRNA expression levels in prostate tumor, normal prostate and in various other normal tissues were determined using microarray technology (Synteni, Palo Alto, CA). Briefly, the PCR amplification products were dotted onto slides in an array format, with each product occupying a unique location in the array. mRNA was extracted from the tissue sample to be tested, reverse transcribed, and fluorescent-labeled cDNA probes were generated. The microarrays were probed with the labeled cDNA probes, the slides scanned and fluorescence intensity was measured. This intensity correlates with the hybridization intensity. Two clones (referred to as P509S and P510S) were found to be over-expressed in prostate tumor and normal prostate and expressed at low levels in all other normal tissues tested (liver, pancreas, skin, bone marrow, brain, breast, adrenal gland, bladder, testes, salivary gland, large intestine, kidney, ovary, lung, spinal cord, skeletal muscle and colon). The determined cDNA sequences for P509S and P510S are provided in SEQ ID NO: 223 and 224, respectively. Comparison of these sequences with those in the gene bank as described above, revealed some homology to previously identified ESTs.

Additional, studies led to the isolation of the full-length cDNA sequence for P509S. This sequence is provided in SEQ ID NO: 332, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 339.

## EXAMPLE 2

### DETERMINATION OF TISSUE SPECIFICITY OF PROSTATE TUMOR POLYPEPTIDES

Using gene specific primers, mRNA expression levels for the representative prostate tumor polypeptides F1-16, H1-1, J1-17 (also referred to as P502S), L1-12 (also referred to as P501S), F1-12 (also referred to as P504S) and N1-1862 (also referred to as P503S) were examined in a variety of normal and tumor tissues using RT-PCR.

Briefly, total RNA was extracted from a variety of normal and tumor tissues using Trizol reagent as described above. First strand synthesis was carried out using 1-2  $\mu$ g of total RNA with SuperScript II reverse transcriptase (BRL Life Technologies) at 42 °C for one hour. The cDNA was then amplified by PCR with gene-specific primers. To ensure the semi-quantitative nature of the RT-PCR,  $\beta$ -actin was used as an internal control for each of the tissues examined. First, serial dilutions of the first strand cDNAs were prepared and RT-PCR assays were performed using  $\beta$ -actin specific primers. A dilution was then chosen that enabled the linear range amplification of the  $\beta$ -actin template and which was sensitive enough to reflect the differences in the initial copy numbers. Using these conditions, the  $\beta$ -actin levels were determined for each reverse transcription reaction from each tissue. DNA contamination was minimized by DNase treatment and by assuring a negative PCR result when using first strand cDNA that was prepared without adding reverse transcriptase.

mRNA Expression levels were examined in four different types of tumor tissue (prostate tumor from 2 patients, breast tumor from 3 patients, colon tumor, lung tumor), and sixteen different normal tissues, including prostate, colon, kidney, liver, lung, ovary, pancreas, skeletal muscle, skin, stomach, testes, bone marrow and brain. F1-16 was found to be expressed at high levels in prostate tumor tissue, colon tumor and normal prostate, and at lower levels in normal liver, skin and testes, with expression being undetectable in the other tissues examined. H1-1 was found to be expressed at high levels in prostate tumor, lung tumor, breast tumor, normal prostate, normal colon and normal brain, at much lower levels in normal lung, pancreas, skeletal muscle, skin, small intestine, bone marrow, and was not detected in the other tissues tested. J1-17 (P502S) and L1-12 (P501S) appear to be specifically over-expressed in prostate, with both genes being expressed at high levels in prostate tumor and normal prostate but at low to undetectable levels in all the other tissues examined. N1-1862 (P503S) was found to be over-expressed in 60% of prostate tumors and detectable in normal colon and kidney. The RT-PCR results thus indicate that

F1-16, H1-1, J1-17 (P502S), N1-1862 (P503S) and L1-12 (P501S) are either prostate specific or are expressed at significantly elevated levels in prostate.

Further RT-PCR studies showed that F1-12 (P504S) is over-expressed in 60% of prostate tumors, detectable in normal kidney but not detectable in all other tissues tested. Similarly, R1-2330 was shown to be over-expressed in 40% of prostate tumors, detectable in normal kidney and liver, but not detectable in all other tissues tested. U1-3064 was found to be over-expressed in 60% of prostate tumors, and also expressed in breast and colon tumors, but was not detectable in normal tissues.

RT-PCR characterization of R1-2330, U1-3064 and 1D-4279 showed that these three antigens are over-expressed in prostate and/or prostate tumors.

Northern analysis with four prostate tumors, two normal prostate samples, two BPH prostates, and normal colon, kidney, liver, lung, pancreas, skeletal muscle, brain, stomach, testes, small intestine and bone marrow, showed that L1-12 (P501S) is over-expressed in prostate tumors and normal prostate, while being undetectable in other normal tissues tested. J1-17 (P502S) was detected in two prostate tumors and not in the other tissues tested. N1-1862 (P503S) was found to be over-expressed in three prostate tumors and to be expressed in normal prostate, colon and kidney, but not in other tissues tested. F1-12 (P504S) was found to be highly expressed in two prostate tumors and to be undetectable in all other tissues tested.

The microarray technology described above was used to determine the expression levels of representative antigens described herein in prostate tumor, breast tumor and the following normal tissues: prostate, liver, pancreas, skin, bone marrow, brain, breast, adrenal gland, bladder, testes, salivary gland, large intestine, kidney, ovary, lung, spinal cord, skeletal muscle and colon. L1-12 (P501S) was found to be over-expressed in normal prostate and prostate tumor, with some expression being detected in normal skeletal muscle. Both J1-12 and F1-12 (P504S) were found to be over-expressed in prostate tumor, with expression being lower or undetectable in all other tissues tested. N1-1862 (P503S) was found to be expressed at high levels in prostate tumor and normal prostate, and at low levels in normal large intestine and normal colon, with expression being undetectable in all other tissues tested. R1-2330 was found to be over-expressed in prostate tumor and normal prostate, and to be expressed at lower levels in all other tissues tested. 1D-4279 was found to be over-expressed in prostate tumor and normal prostate, expressed at lower levels in normal spinal cord, and to be undetectable in all other tissues tested.

Further microarray analysis to specifically address the extent to which P501S (SEQ ID NO: 110) was expressed in breast tumor revealed moderate over-expression not only in breast tumor, but also in metastatic breast tumor (2/31), with negligible to low expression

in normal tissues. This data suggests that P501S may be over-expressed in various breast tumors as well as in prostate tumors.

The expression levels of 32 ESTs (expressed sequence tags) described by Vasmatazis *et al.* (*Proc. Natl. Acad. Sci. USA* 95:300-304, 1998) in a variety of tumor and normal tissues were examined by microarray technology as described above. Two of these clones (referred to as P1000C and P1001C) were found to be over-expressed in prostate tumor and normal prostate, and expressed at low to undetectable levels in all other tissues tested (normal aorta, thymus, resting and activated PBMC, epithelial cells, spinal cord, adrenal gland, fetal tissues, skin, salivary gland, large intestine, bone marrow, liver, lung, dendritic cells, stomach, lymph nodes, brain, heart, small intestine, skeletal muscle, colon and kidney. The determined cDNA sequences for P1000C and P1001C are provided in SEQ ID NO: 384 and 472, respectively. The sequence of P1001C was found to show some homology to the previously isolated Human mRNA for JM27 protein. No significant homologies were found to the sequence of P1000C.

The expression of the polypeptide encoded by the full length cDNA sequence for F1-12 (also referred to as P504S; SEQ ID NO: 108) was investigated by immunohistochemical analysis. Rabbit-anti-P504S polyclonal antibodies were generated against the full length P504S protein by standard techniques. Subsequent isolation and characterization of the polyclonal antibodies were also performed by techniques well known in the art. Immunohistochemical analysis showed that the P504S polypeptide was expressed in 100% of prostate carcinoma samples tested (n=5).

The rabbit-anti-P504S polyclonal antibody did not appear to label benign prostate cells with the same cytoplasmic granular staining, but rather with light nuclear staining. Analysis of normal tissues revealed that the encoded polypeptide was found to be expressed in some, but not all normal human tissues. Positive cytoplasmic staining with rabbit-anti-P504S polyclonal antibody was found in normal human kidney, liver, brain, colon and lung-associated macrophages, whereas heart and bone marrow were negative.

This data indicates that the P504S polypeptide is present in prostate cancer tissues, and that there are qualitative and quantitative differences in the staining between benign prostatic hyperplasia tissues and prostate cancer tissues, suggesting that this polypeptide may be detected selectively in prostate tumors and therefore be useful in the diagnosis of prostate cancer.

### EXAMPLE 3

#### ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES BY PCR-BASED SUBTRACTION

A cDNA subtraction library, containing cDNA from normal prostate subtracted with ten other normal tissue cDNAs (brain, heart, kidney, liver, lung, ovary, placenta, skeletal muscle, spleen and thymus) and then submitted to a first round of PCR amplification, was purchased from Clontech. This library was subjected to a second round of PCR amplification, following the manufacturer's protocol. The resulting cDNA fragments were subcloned into the vector pT7 Blue T-vector (Novagen, Madison, WI) and transformed into XL-1 Blue MRF' *E. coli* (Stratagene). DNA was isolated from independent clones and sequenced using a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A.

Fifty-nine positive clones were sequenced. Comparison of the DNA sequences of these clones with those in the gene bank, as described above, revealed no significant homologies to 25 of these clones, hereinafter referred to as P5, P8, P9, P18, P20, P30, P34, P36, P38, P39, P42, P49, P50, P53, P55, P60, P64, P65, P73, P75, P76, P79 and P84. The determined cDNA sequences for these clones are provided in SEQ ID NO: 41-45, 47-52 and 54-65, respectively. P29, P47, P68, P80 and P82 (SEQ ID NO: 46, 53 and 66-68, respectively) were found to show some degree of homology to previously identified DNA sequences. To the best of the inventors' knowledge, none of these sequences have been previously shown to be present in prostate.

Further studies using the PCR-based methodology described above resulted in the isolation of more than 180 additional clones, of which 23 clones were found to show no significant homologies to known sequences. The determined cDNA sequences for these clones are provided in SEQ ID NO: 115-123, 127, 131, 137, 145, 147-151, 153, 156-158 and 160. Twenty-three clones (SEQ ID NO: 124-126, 128-130, 132-136, 138-144, 146, 152, 154, 155 and 159) were found to show some homology to previously identified ESTs. An additional ten clones (SEQ ID NO: 161-170) were found to have some degree of homology to known genes. Larger cDNA clones containing the P20 sequence represent splice variants of a gene referred to as P703P. The determined DNA sequence for the variants referred to as DE1, DE13 and DE14 are provided in SEQ ID NOS: 171, 175 and 177, respectively, with the corresponding predicted amino acid sequences being provided in SEQ ID NO: 172, 176 and 178, respectively. The determined cDNA sequence for an extended spliced form of P703 is provided in SEQ ID NO: 225. The DNA sequences for the splice variants referred to as DE2 and DE6 are provided in SEQ ID NOS: 173 and 174, respectively.

mRNA Expression levels for representative clones in tumor tissues (prostate (n=5), breast (n=2), colon and lung) normal tissues (prostate (n=5), colon, kidney, liver, lung (n=2), ovary (n=2), skeletal muscle, skin, stomach, small intestine and brain), and activated

and non-activated PBMC was determined by RT-PCR as described above. Expression was examined in one sample of each tissue type unless otherwise indicated.

P9 was found to be highly expressed in normal prostate and prostate tumor compared to all normal tissues tested except for normal colon which showed comparable expression. P20, a portion of the P703P gene, was found to be highly expressed in normal prostate and prostate tumor, compared to all twelve normal tissues tested. A modest increase in expression of P20 in breast tumor (n=2), colon tumor and lung tumor was seen compared to all normal tissues except lung (1 of 2). Increased expression of P18 was found in normal prostate, prostate tumor and breast tumor compared to other normal tissues except lung and stomach. A modest increase in expression of P5 was observed in normal prostate compared to most other normal tissues. However, some elevated expression was seen in normal lung and PBMC. Elevated expression of P5 was also observed in prostate tumors (2 of 5), breast tumor and one lung tumor sample. For P30, similar expression levels were seen in normal prostate and prostate tumor, compared to six of twelve other normal tissues tested. Increased expression was seen in breast tumors, one lung tumor sample and one colon tumor sample, and also in normal PBMC. P29 was found to be over-expressed in prostate tumor (5 of 5) and normal prostate (5 of 5) compared to the majority of normal tissues. However, substantial expression of P29 was observed in normal colon and normal lung (2 of 2). P80 was found to be over-expressed in prostate tumor (5 of 5) and normal prostate (5 of 5) compared to all other normal tissues tested, with increased expression also being seen in colon tumor.

Further studies resulted in the isolation of twelve additional clones, hereinafter referred to as 10-d8, 10-h10, 11-c8, 7-g6, 8-b5, 8-b6, 8-d4, 8-d9, 8-g3, 8-h11, 9-f12 and 9-f3. The determined DNA sequences for 10-d8, 10-h10, 11-c8, 8-d4, 8-d9, 8-h11, 9-f12 and 9-f3 are provided in SEQ ID NO: 207, 208, 209, 216, 217, 220, 221 and 222, respectively. The determined forward and reverse DNA sequences for 7-g6, 8-b5, 8-b6 and 8-g3 are provided in SEQ ID NO: 210 and 211; 212 and 213; 214 and 215; and 218 and 219, respectively. Comparison of these sequences with those in the gene bank revealed no significant homologies to the sequence of 9-f3. The clones 10-d8, 11-c8 and 8-h11 were found to show some homology to previously isolated ESTs, while 10-h10, 8-b5, 8-b6, 8-d4, 8-d9, 8-g3 and 9-f12 were found to show some homology to previously identified genes. Further characterization of 7-G6 and 8-G3 showed identity to the known genes PAP and PSA, respectively.

mRNA expression levels for these clones were determined using the micro-array technology described above. The clones 7-G6, 8-G3, 8-B5, 8-B6, 8-D4, 8-D9, 9-F3, 9-F12, 9-H3, 10-A2, 10-A4, 11-C9 and 11-F2 were found to be over-expressed in prostate tumor and normal prostate, with expression in other tissues tested being low or undetectable.

Increased expression of 8-F11 was seen in prostate tumor and normal prostate, bladder, skeletal muscle and colon. Increased expression of 10-H10 was seen in prostate tumor and normal prostate, bladder, lung, colon, brain and large intestine. Increased expression of 9-B1 was seen in prostate tumor, breast tumor, and normal prostate, salivary gland, large intestine and skin, with increased expression of 11-C8 being seen in prostate tumor, and normal prostate and large intestine.

An additional cDNA fragment derived from the PCR-based normal prostate subtraction, described above, was found to be prostate specific by both micro-array technology and RT-PCR. The determined cDNA sequence of this clone (referred to as 9-A11) is provided in SEQ ID NO: 226. Comparison of this sequence with those in the public databases revealed 99% identity to the known gene HOXB13.

Further studies led to the isolation of the clones 8-C6 and 8-H7. The determined cDNA sequences for these clones are provided in SEQ ID NO: 227 and 228, respectively. These sequences were found to show some homology to previously isolated ESTs.

PCR and hybridization-based methodologies were employed to obtain longer cDNA sequences for clone P20 (also referred to as P703P), yielding three additional cDNA fragments that progressively extend the 5' end of the gene. These fragments, referred to as P703PDE5, P703P6.26, and P703PX-23 (SEQ ID NO: 326, 328 and 330, with the predicted corresponding amino acid sequences being provided in SEQ ID NO: 327, 329 and 331, respectively) contain additional 5' sequence. P703PDE5 was recovered by screening of a cDNA library (#141-26) with a portion of P703P as a probe. P703P6.26 was recovered from a mixture of three prostate tumor cDNAs and P703PX\_23 was recovered from cDNA library (#438-48). Together, the additional sequences include all of the putative mature serine protease along with part of the putative signal sequence. Further studies using a PCR-based subtraction library of a prostate tumor pool subtracted against a pool of normal tissues (referred to as JP: PCR subtraction) resulted in the isolation of thirteen additional clones, seven of which did not share any significant homology to known GenBank sequences. The determined cDNA sequences for these seven clones (P711P, P712P, novel 23, P774P, P775P, P710P and P768P) are provided in SEQ ID NO: 307-311, 313 and 315, respectively. The remaining six clones (SEQ ID NO: 316 and 321-325) were shown to share some homology to known genes. By microarray analysis, all thirteen clones showed three or more fold over-expression in prostate tissues, including prostate tumors, BPH and normal prostate as compared to normal non-prostate tissues. Clones P711P, P712P, novel 23 and P768P showed over-expression in most prostate tumors and BPH tissues tested (n=29), and in the majority of normal prostate tissues (n=4), but background to low expression levels in all normal tissues.



Clones P774P, P775P and P710P showed comparatively lower expression and expression in fewer prostate tumors and BPH samples, with negative to low expression in normal prostate.

The full-length cDNA for P711P was obtained by employing the partial sequence of SEQ ID NO: 307 to screen a prostate cDNA library. Specifically, a directionally cloned prostate cDNA library was prepared using standard techniques. One million colonies of this library were plated onto LB/Amp plates. Nylon membrane filters were used to lift these colonies, and the cDNAs which were picked up by these filters were denatured and cross-linked to the filters by UV light. The P711P cDNA fragment of SEQ ID NO: 307 was radio-labeled and used to hybridize with these filters. Positive clones were selected, and cDNAs were prepared and sequenced using an automatic Perkin Elmer/Applied Biosystems sequencer. The determined full-length sequence of P711P is provided in SEQ ID NO: 382, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 383.

Using PCR and hybridization-based methodologies, additional cDNA sequence information was derived for two clones described above, 11-C9 and 9-F3, herein after referred to as P707P and P714P, respectively (SEQ ID NO: 333 and 334). After comparison with the most recent GenBank, P707P was found to be a splice variant of the known gene HoxB13. In contrast, no significant homologies to P714P were found.

Clones 8-B3, P89, P98, P130 and P201 (as disclosed in U.S. Patent Application No. 09/020,956, filed February 9, 1998) were found to be contained within one contiguous sequence, referred to as P705P (SEQ ID NO: 335, with the predicted amino acid sequence provided in SEQ ID NO: 336), which was determined to be a splice variant of the known gene NKX 3.1.

#### EXAMPLE 4 SYNTHESIS OF POLYPEPTIDES

Polypeptides may be synthesized on a Perkin Elmer/Applied Biosystems 430A peptide synthesizer using FMOC chemistry with HPTU (O-Benzotriazole-N,N,N',N'-tetramethyluronium hexafluorophosphate) activation. A Gly-Cys-Gly sequence may be attached to the amino terminus of the peptide to provide a method of conjugation, binding to an immobilized surface, or labeling of the peptide. Cleavage of the peptides from the solid support may be carried out using the following cleavage mixture: trifluoroacetic acid:ethanedithiol:thioanisole:water:phenol (40:1:2:2:3). After cleaving for 2 hours, the peptides may be precipitated in cold methyl-t-butyl-ether. The peptide pellets may then be dissolved in water containing 0.1% trifluoroacetic acid (TFA) and lyophilized prior to purification by C18 reverse phase HPLC. A gradient of 0%-60% acetonitrile (containing 0.1% TFA) in water (containing 0.1% TFA) may be used to elute the peptides. Following

lyophilization of the pure fractions, the peptides may be characterized using electrospray or other types of mass spectrometry and by amino acid analysis.

#### EXAMPLE 5

##### FURTHER ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES BY PCR-BASED SUBTRACTION

A cDNA library generated from prostate primary tumor mRNA as described above was subtracted with cDNA from normal prostate. The subtraction was performed using a PCR-based protocol (Clontech), which was modified to generate larger fragments. Within this protocol, tester and driver double stranded cDNA were separately digested with five restriction enzymes that recognize six-nucleotide restriction sites (MluI, MscI, PvuII, SalI and StuI). This digestion resulted in an average cDNA size of 600 bp, rather than the average size of 300 bp that results from digestion with RsaI according to the Clontech protocol. This modification did not affect the subtraction efficiency. Two tester populations were then created with different adapters, and the driver library remained without adapters.

The tester and driver libraries were then hybridized using excess driver cDNA. In the first hybridization step, driver was separately hybridized with each of the two tester cDNA populations. This resulted in populations of (a) unhybridized tester cDNAs, (b) tester cDNAs hybridized to other tester cDNAs, (c) tester cDNAs hybridized to driver cDNAs and (d) unhybridized driver cDNAs. The two separate hybridization reactions were then combined, and rehybridized in the presence of additional denatured driver cDNA. Following this second hybridization, in addition to populations (a) through (d), a fifth population (e) was generated in which tester cDNA with one adapter hybridized to tester cDNA with the second adapter. Accordingly, the second hybridization step resulted in enrichment of differentially expressed sequences which could be used as templates for PCR amplification with adaptor-specific primers.

The ends were then filled in, and PCR amplification was performed using adaptor-specific primers. Only population (e), which contained tester cDNA that did not hybridize to driver cDNA, was amplified exponentially. A second PCR amplification step was then performed, to reduce background and further enrich differentially expressed sequences.

This PCR-based subtraction technique normalizes differentially expressed cDNAs so that rare transcripts that are overexpressed in prostate tumor tissue may be recoverable. Such transcripts would be difficult to recover by traditional subtraction methods.

In addition to genes known to be overexpressed in prostate tumor, seventy-seven further clones were identified. Sequences of these partial cDNAs are provided in SEQ ID NO: 29 to 305. Most of these clones had no significant homology to database sequences. Exceptions were JPTPN23 (SEQ ID NO: 231; similarity to pig valosin-containing protein), JPTPN30 (SEQ ID NO: 234; similarity to rat mRNA for proteasome subunit), JPTPN45 (SEQ ID NO: 243; similarity to rat *norvegicus* cytosolic NADP-dependent isocitrate dehydrogenase), JPTPN46 (SEQ ID NO: 244; similarity to human subclone H8 4 d4 DNA sequence), JP1D6 (SEQ ID NO: 265; similarity to *G. gallus* dynein light chain-A), JP8D6 (SEQ ID NO: 288; similarity to human BAC clone RG016J04), JP8F5 (SEQ ID NO: 289; similarity to human subclone H8 3 b5 DNA sequence), and JP8E9 (SEQ ID NO: 299; similarity to human Alu sequence).

Additional studies using the PCR-based subtraction library consisting of a prostate tumor pool subtracted against a normal prostate pool (referred to as PT-PN PCR subtraction) yielded three additional clones. Comparison of the cDNA sequences of these clones with the most recent release of GenBank revealed no significant homologies to the two clones referred to as P715P and P767P (SEQ ID NO: 312 and 314). The remaining clone was found to show some homology to the known gene KIAA0056 (SEQ ID NO: 318). Using microarray analysis to measure mRNA expression levels in various tissues, all three clones were found to be over-expressed in prostate tumors and BPH tissues. Specifically, clone P715P was over-expressed in most prostate tumors and BPH tissues by a factor of three or greater, with elevated expression seen in the majority of normal prostate samples and in fetal tissue, but negative to low expression in all other normal tissues. Clone P767P was over-expressed in several prostate tumors and BPH tissues, with moderate expression levels in half of the normal prostate samples, and background to low expression in all other normal tissues tested.

Further analysis, by microarray as described above, of the PT-PN PCR subtraction library and of a DNA subtraction library containing cDNA from prostate tumor subtracted with a pool of normal tissue cDNAs, led to the isolation of 27 additional clones (SEQ ID NO: 340-365 and 381) which were determined to be over-expressed in prostate tumor. The clones of SEQ ID NO: 341, 342, 345, 347, 348, 349, 351, 355-359, 361, 362 and 364 were also found to be expressed in normal prostate. Expression of all 26 clones in a variety of normal tissues was found to be low or undetectable, with the exception of P544S (SEQ ID NO: 356) which was found to be expressed in small intestine. Of the 26 clones, 10 (SEQ ID NO: 340-349) were found to show some homology to previously identified sequences. No significant homologies were found to the clones of SEQ ID NO: 350-365.

#### EXAMPLE 6

##### PEPTIDE PRIMING OF MICE AND PROPAGATION OF CTL LINES

6.1. This Example illustrates the preparation of a CTL cell line specific for cells expressing the P502S gene.

Mice expressing the transgene for human HLA A2.1 (provided by Dr L. Sherman, The Scripps Research Institute, La Jolla, CA) were immunized with P2S#12 peptide (VLGWVAEL; SEQ ID NO: 306), which is derived from the P502S gene (also referred to herein as J1-17, SEQ ID NO: 8), as described by Theobald et al., *Proc. Natl. Acad. Sci. USA* 92:11993-11997, 1995 with the following modifications. Mice were immunized with 100 $\mu$ g of P2S#12 and 120 $\mu$ g of an I-A<sup>b</sup> binding peptide derived from hepatitis B Virus protein emulsified in incomplete Freund's adjuvant. Three weeks later these mice were sacrificed and using a nylon mesh single cell suspensions prepared. Cells were then resuspended at 6 x 10<sup>6</sup> cells/ml in complete media (RPMI-1640; Gibco BRL, Gaithersburg, MD) containing 10% FCS, 2mM Glutamine (Gibco BRL), sodium pyruvate (Gibco BRL), non-essential amino acids (Gibco BRL), 2 x 10<sup>-5</sup> M 2-mercaptoethanol, 50U/ml penicillin and streptomycin, and cultured in the presence of irradiated (3000 rads) P2S#12-pulsed (5mg/ml P2S#12 and 10mg/ml  $\beta$ 2-microglobulin) LPS blasts (A2 transgenic spleens cells cultured in the presence of 7 $\mu$ g/ml dextran sulfate and 25 $\mu$ g/ml LPS for 3 days). Six days later, cells (5 x 10<sup>5</sup>/ml) were restimulated with 2.5 x 10<sup>6</sup>/ml peptide pulsed irradiated (20,000 rads) EL4A2Kb cells (Sherman et al, *Science* 258:815-818, 1992) and 3 x 10<sup>6</sup>/ml A2 transgenic spleen feeder cells. Cells were cultured in the presence of 20U/ml IL-2. Cells continued to be restimulated on a weekly basis as described, in preparation for cloning the line.

P2S#12 line was cloned by limiting dilution analysis with peptide pulsed EL4 A2Kb tumor cells (1 x 10<sup>4</sup> cells/ well) as stimulators and A2 transgenic spleen cells as feeders ( 5 x 10<sup>5</sup> cells/ well) grown in the presence of 30U/ml IL-2. On day 14, cells were

restimulated as before. On day 21, clones that were growing were isolated and maintained in culture. Several of these clones demonstrated significantly higher reactivity (lysis) against human fibroblasts (HLA A2.1 expressing) transduced with P502S than against control fibroblasts. An example is presented in Figure 1.

This data indicates that P2S #12 represents a naturally processed epitope of the P502S protein that is expressed in the context of the human HLA A2.1 molecule.

6.2. This Example illustrates the preparation of murine CTL lines and CTL clones specific for cells expressing the P501S gene.

This series of experiments were performed similarly to that described above. Mice were immunized with the P1S#10 peptide (SEQ ID NO: 337), which is derived from the P501S gene (also referred to herein as L1-12, SEQ ID NO: 110). The P1S#10 peptide was derived by analysis of the predicted polypeptide sequence for P501S for potential HLA-A2 binding sequences as defined by published HLA-A2 binding motifs (Parker, KC, *et al*, *J. Immunol.*, 152:163, 1994). P1S#10 peptide was synthesized as described in Example 4, and empirically tested for HLA-A2 binding using a T cell based competition assay. Predicted A2 binding peptides were tested for their ability to compete HLA-A2 specific peptide presentation to an HLA-A2 restricted CTL clone (D150M58), which is specific for the HLA-A2 binding influenza matrix peptide fluM58. D150M58 CTL secretes TNF in response to self-presentation of peptide fluM58. In the competition assay, test peptides at 100-200  $\mu\text{g/ml}$  were added to cultures of D150M58 CTL in order to bind HLA-A2 on the CTL. After thirty minutes, CTL cultured with test peptides, or control peptides, were tested for their antigen dose response to the fluM58 peptide in a standard TNF bioassay. As shown in Figure 3, peptide P1S#10 competes HLA-A2 restricted presentation of fluM58, demonstrating that peptide P1S#10 binds HLA-A2.

Mice expressing the transgene for human HLA A2.1 were immunized as described by Theobald *et al.* (*Proc. Natl. Acad. Sci. USA* 92:11993-11997, 1995) with the following modifications. Mice were immunized with 62.5 $\mu\text{g}$  of P1S #10 and 120 $\mu\text{g}$  of an I-A<sup>b</sup> binding peptide derived from Hepatitis B Virus protein emulsified in incomplete Freund's adjuvant. Three weeks later these mice were sacrificed and single cell suspensions prepared using a nylon mesh. Cells were then resuspended at  $6 \times 10^6$  cells/ml in complete media (as described above) and cultured in the presence of irradiated (3000 rads) P1S#10-pulsed (2 $\mu\text{g/ml}$  P1S#10 and 10mg/ml  $\beta$ 2-microglobulin) LPS blasts (A2 transgenic spleens cells cultured in the presence of 7 $\mu\text{g/ml}$  dextran sulfate and 25 $\mu\text{g/ml}$  LPS for 3 days). Six days later cells ( $5 \times 10^5/\text{ml}$ ) were restimulated with  $2.5 \times 10^6/\text{ml}$  peptide-pulsed irradiated (20,000 rads) EL4A2Kb cells, as described above, and  $3 \times 10^6/\text{ml}$  A2 transgenic spleen feeder cells. Cells were cultured in the presence of 20 U/ml IL-2. Cells were restimulated on a weekly

basis in preparation for cloning. After three rounds of *in vitro* stimulations, one line was generated that recognized P1S#10-pulsed Jurkat A2Kb targets and P501S-transduced Jurkat targets as shown in Figure 4.

A P1S#10-specific CTL line was cloned by limiting dilution analysis with peptide pulsed EL4 A2Kb tumor cells ( $1 \times 10^4$  cells/ well) as stimulators and A2 transgenic spleen cells as feeders ( $5 \times 10^5$  cells/ well) grown in the presence of 30U/ml IL-2. On day 14, cells were restimulated as before. On day 21, viable clones were isolated and maintained in culture. As shown in Figure 5, five of these clones demonstrated specific cytolytic reactivity against P501S-transduced Jurkat A2Kb targets. This data indicates that P1S#10 represents a naturally processed epitope of the P501S protein that is expressed in the context of the human HLA-A2.1 molecule.

#### EXAMPLE 7

##### ABILITY OF HUMAN T CELLS TO RECOGNIZE PROSTATE TUMOR POLYPEPTIDES

This Example illustrates the ability of T cells specific for a prostate tumor polypeptide to recognize human tumor.

Human CD8<sup>+</sup> T cells were primed *in vitro* to the P2S-12 peptide (SEQ ID NO: 306) derived from P502S (also referred to as J1-17) using dendritic cells according to the protocol of Van Tsai et al. (*Critical Reviews in Immunology* 18:65-75, 1998). The resulting CD8<sup>+</sup> T cell microcultures were tested for their ability to recognize the P2S-12 peptide presented by autologous fibroblasts or fibroblasts which were transduced to express the P502S gene in a  $\gamma$ -interferon ELISPOT assay (see Lalvani et al., *J. Exp. Med.* 186:859-865, 1997). Briefly, titrating numbers of T cells were assayed in duplicate on  $10^4$  fibroblasts in the presence of 3  $\mu$ g/ml human  $\beta_2$ -microglobulin and 1  $\mu$ g/ml P2S-12 peptide or control E75 peptide. In addition, T cells were simultaneously assayed on autologous fibroblasts transduced with the P502S gene or as a control, fibroblasts transduced with HER-2/*neu*. Prior to the assay, the fibroblasts were treated with 10 ng/ml  $\gamma$ -interferon for 48 hours to upregulate class I MHC expression. One of the microcultures (#5) demonstrated strong recognition of both peptide pulsed fibroblasts as well as transduced fibroblasts in a  $\gamma$ -interferon ELISPOT assay. Figure 2A demonstrates that there was a strong increase in the number of  $\gamma$ -interferon spots with increasing numbers of T cells on fibroblasts pulsed with the P2S-12 peptide (solid bars) but not with the control E75 peptide (open bars). This shows the ability of these T cells to specifically recognize the P2S-12 peptide. As shown in Figure 2B, this microculture also demonstrated an increase in the number of  $\gamma$ -interferon spots with increasing numbers of T

cells on fibroblasts transduced to express the P502S gene but not the HER-2/*neu* gene. These results provide additional confirmatory evidence that the P2S-12 peptide is a naturally processed epitope of the P502S protein. Furthermore, this also demonstrates that there exists in the human T cell repertoire, high affinity T cells which are capable of recognizing this epitope. These T cells should also be capable of recognizing human tumors which express the P502S gene.

#### EXAMPLE 8

##### PRIMING OF CTL *IN VIVO* USING NAKED DNA IMMUNIZATION WITH A PROSTATE ANTIGEN

The prostate tumor antigen L1-12, as described above, is also referred to as P501S. HLA A2Kb Tg mice (provided by Dr L. Sherman, The Scripps Research Institute, La Jolla, CA) were immunized with 100 µg VR10132-P501S either intramuscularly or intradermally. The mice were immunized three times, with a two week interval between immunizations. Two weeks after the last immunization, immune spleen cells were cultured with Jurkat A2Kb-P501S transduced stimulator cells. CTL lines were stimulated weekly. After two weeks of *in vitro* stimulation, CTL activity was assessed against P501S transduced targets. Two out of 8 mice developed strong anti-P501S CTL responses. These results demonstrate that P501S contains at least one naturally processed A2-restricted CTL epitope.

#### EXAMPLE 9

##### GENERATION OF HUMAN CTL *IN VITRO* USING WHOLE GENE PRIMING AND STIMULATION TECHNIQUES WITH PROSTATE TUMOR ANTIGEN

Using *in vitro* whole-gene priming with P501S-retrovirally transduced autologous fibroblasts (see, for example, Yee et al, *The Journal of Immunology*, 157(9):4079-86, 1996), human CTL lines were derived that specifically recognize autologous fibroblasts transduced with P501S (also known as L1-12), as determined by interferon-γ ELISPOT analysis as described above. Using a panel of HLA-mismatched fibroblast lines transduced with P501S, these CTL lines were shown to be restricted HLA-A2 class I allele. Specifically, dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal human donors by growing for five days in RPMI medium containing 10% human serum, 50 ng/ml human GM-CSF and 30 ng/ml human IL-4. Following culture, DC were infected overnight with recombinant P501S vaccinia virus at a multiplicity of infection (M.O.I) of five, and matured overnight by the addition of 3 µg/ml CD40 ligand. Virus was inactivated by UV irradiation. CD8+ T cells were isolated using a magnetic bead system, and

priming cultures were initiated using standard culture techniques. Cultures were restimulated every 7-10 days using autologous primary fibroblasts retrovirally transduced with P501S. Following four stimulation cycles, CD8+ T cell lines were identified that specifically produced interferon- $\gamma$  when stimulated with P501S-transduced autologous fibroblasts. The P501S-specific activity could be sustained by the continued stimulation of the cultures with P501S-transduced fibroblasts in the presence of IL-15. A panel of HLA-mismatched fibroblast lines transduced with P501S were generated to define the restriction allele of the response. By measuring interferon- $\gamma$  in an ELISPOT assay, the P501S specific response was shown to be restricted by HLA-A2. These results demonstrate that a CD8+ CTL response to P501S can be elicited.

#### EXAMPLE 10

##### IDENTIFICATION OF A NATURALLY PROCESSED CTL EPITOPE CONTAINED WITHIN A PROSTATE TUMOR ANTIGEN

The 9-mer peptide p5 (SEQ ID NO: 338) was derived from the P703P antigen (also referred to as P20). The p5 peptide is immunogenic in human HLA-A2 donors and is a naturally processed epitope. Antigen specific CD8+ T cells can be primed following repeated *in vitro* stimulations with monocytes pulsed with p5 peptide. These CTL specifically recognize p5-pulsed target cells in both ELISPOT (as described above) and chromium release assays. Additionally, immunization of HLA-A2 transgenic mice with p5 leads to the generation of CTL lines which recognize a variety of P703P transduced target cells expressing either HLA-A2Kb or HLA-A2. Specifically, HLA-A2 transgenic mice were immunized subcutaneously in the footpad with 100  $\mu$ g of p5 peptide together with 140  $\mu$ g of hepatitis B virus core peptide (a Th peptide) in Freund's incomplete adjuvant. Three weeks post immunization, spleen cells from immunized mice were stimulated *in vitro* with peptide-pulsed LPS blasts. CTL activity was assessed by chromium release assay five days after primary *in vitro* stimulation. Retrovirally transduced cells expressing the control antigen P703P and HLA-A2Kb were used as targets. CTL lines that specifically recognized both p5-pulsed targets as well as P703P-expressing targets were identified.

Human *in vitro* priming experiments demonstrated that the p5 peptide is immunogenic in humans. Dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal human donors by culturing for five days in RPMI medium containing 10% human serum, 50 ng/ml human GM-CSF and 30 ng/ml human IL-4. Following culture, the DC were pulsed with p5 peptide and cultured with GM-CSF and IL-4 together with CD8+ T cell enriched PBMC. CTL lines were restimulated on a weekly basis



with p5-pulsed monocytes. Five to six weeks after initiation of the CTL cultures, CTL recognition of p5-pulsed target cells was demonstrated.

#### EXAMPLE 11

##### EXPRESSION OF A BREAST TUMOR-DERIVED ANTIGEN IN PROSTATE

Isolation of the antigen B305D from breast tumor by differential display is described in US Patent Application No. 08/700,014, filed August 20, 1996. Several different splice forms of this antigen were isolated. The determined cDNA sequences for these splice forms are provided in SEQ ID NO: 366-375, with the predicted amino acid sequences corresponding to the sequences of SEQ ID NO: 292, 298 and 301-303 being provided in SEQ ID NO: 299-306, respectively.

The expression levels of B305D in a variety of tumor and normal tissues were examined by real time PCR and by Northern analysis. The results indicated that B305D is highly expressed in breast tumor, prostate tumor, normal prostate tumor and normal testes, with expression being low or undetectable in all other tissues examined (colon tumor, lung tumor, ovary tumor, and normal bone marrow, colon, kidney, liver, lung, ovary, skin, small intestine, stomach).

#### EXAMPLE 12

##### ELICITATION OF PROSTATE TUMOR ANTIGEN-SPECIFIC CTL RESPONSES IN HUMAN BLOOD

This Example illustrates the ability of a prostate tumor antigen to elicit a CTL response in blood of normal humans.

Autologous dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal donors by growth for five days in RPMI medium containing 10% human serum, 50 ng/ml GM-CSF and 30 ng/ml IL-4. Following culture, DC were infected overnight with recombinant P501S-expressing vaccinia virus at an M.O.I. of 5 and matured for 8 hours by the addition of 2 micrograms/ml CD40 ligand. Virus was inactivated by UV irradiation, CD8<sup>+</sup> cells were isolated by positive selection using magnetic beads, and priming cultures were initiated in 24-well plates. Following five stimulation cycles, CD8<sup>+</sup> lines were identified that specifically produced interferon-gamma when stimulated with autologous P501S-transduced fibroblasts. The P501S-specific activity of cell line 3A-1 could be maintained following additional stimulation cycles on autologous B-LCL transduced with P501S. Line 3A-1 was shown to specifically recognize autologous B-LCL transduced to

express P501S, but not EGFP-transduced autologous B-LCL, as measured by cytotoxicity assays ( $^{51}\text{Cr}$  release) and interferon-gamma production (Interferon-gamma Elispot; *see above* and Lalvani et al., *J. Exp. Med.* 186:859-865, 1997). The results of these assays are presented in Figures 6A and 6B.

### EXAMPLE 13

#### IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY MICROARRAY ANALYSIS

This Example describes the isolation of certain prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library as described above was screened using microarray analysis to identify clones that display at least a three fold over-expression in prostate tumor and/or normal prostate tissue, as compared to non-prostate normal tissues (not including testis). 372 clones were identified, and 319 were successfully sequenced. Table I presents a summary of these clones, which are shown in SEQ ID NOs:385-400. Of these sequences SEQ ID NOs:386, 389, 390 and 392 correspond to novel genes, and SEQ ID NOs: 393 and 396 correspond to previously identified sequences. The others (SEQ ID NOs:385, 387, 388, 391, 394, 395 and 397-400) correspond to known sequences, as shown in Table I.

Table I  
Summary of Prostate Tumor Antigens

Known Genes	Previously identified Genes	Novel Genes
T-cell gamma chain	P504S	23379 (SEQ ID NO:389)
Kallikrein	P1000C	23399 (SEQ ID NO:392)
Vector	P501S	23320 (SEQ ID NO:386)
CGI-82 protein mRNA (23319; SEQ ID NO:385)	P503S	23381 (SEQ ID NO:390)
PSA	P510S	
Ald. 6 Dehyd.	P784P	
L-iditol-2 dehydrogenase (23376; SEQ ID NO:388)	P502S	
Ets transcription factor PDEF (22672; SEQ ID NO:398)	P706P	
hTGR (22678; SEQ ID NO:399)	19142.2, bangur.seq (22621; SEQ ID NO:396)	
KIAA0295(22685; SEQ ID NO:400)	5566.1 Wang(23404; SEQ ID NO:393)	
Prostatic Acid Phosphatase(22655; SEQ ID NO:397)	P712P	

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transglutaminase (22611; SEQ ID NO:395)	P778P	
HDLBP (23508; SEQ ID NO:394)		
CGI-69 Protein(23367; SEQ ID NO:387)		
KIAA0122(23383; SEQ ID NO:391)		
TEEG		

CGI-82 showed 4.06 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 43% of prostate tumors, 25% normal prostate, not detected in other normal tissues tested. L-iditol-2 dehydrogenase showed 4.94 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 90% of prostate tumors, 100% of normal prostate, and not detected in other normal tissues tested. Ets transcription factor PDEF showed 5.55 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 47% prostate tumors, 25% normal prostate and not detected in other normal tissues tested. hTGR1 showed 9.11 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 63% of prostate tumors and is not detected in normal tissues tested including normal prostate. KIAA0295 showed 5.59 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 47% of prostate tumors, low to undetectable in normal tissues tested including normal prostate tissues. Prostatic acid phosphatase showed 9.14 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 67% of prostate tumors, 50% of normal prostate, and not detected in other normal tissues tested. Transglutaminase showed 14.84 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 30% of prostate tumors, 50% of normal prostate, and is not detected in other normal tissues tested. High density lipoprotein binding protein (HDLBP) showed 28.06 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors, 75% of normal prostate, and is undetectable in all other normal tissues tested. CGI-69 showed 3.56 fold over-expression in prostate tissues as compared to other normal tissues tested. It is a low abundant gene, detected in more than 90% of prostate tumors, and in 75% normal prostate tissues. The expression of this gene in normal tissues was very low. KIAA0122 showed 4.24 fold over-expression in prostate

tissues as compared to other normal tissues tested. It was over-expressed in 57% of prostate tumors, it was undetectable in all normal tissues tested including normal prostate tissues. 19142.2 bangur showed 23.25 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors and 100% of normal prostate. It was undetectable in other normal tissues tested. 5566.1 Wang showed 3.31 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors, 75% normal prostate and was also over-expressed in normal bone marrow, pancreas, and activated PBMC. Novel clone 23379 showed 4.86 fold over-expression in prostate tissues as compared to other normal tissues tested. It was detectable in 97% of prostate tumors and 75% normal prostate and is undetectable in all other normal tissues tested. Novel clone 23399 showed 4.09 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 27% of prostate tumors and was undetectable in all normal tissues tested including normal prostate tissues. Novel clone 23320 showed 3.15 fold over-expression in prostate tissues as compared to other normal tissues tested. It was detectable in all prostate tumors and 50% of normal prostate tissues. It was also expressed in normal colon and trachea. Other normal tissues do not express this gene at high level.

#### EXAMPLE 14

##### IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY ELECTRONIC SUBTRACTION

This Example describes the use of an electronic subtraction technique to identify prostate tumor antigens.

Potential prostate-specific genes present in the GenBank human EST database were identified by electronic subtraction (similar to that described by Vasmatizis et al., *Proc. Natl. Acad. Sci. USA* 95:300-304, 1998). The sequences of EST clones (43,482) derived from various prostate libraries were obtained from the GenBank public human EST database. Each prostate EST sequence was used as a query sequence in a BLASTN (National Center for Biotechnology Information) search against the human EST database. All matches considered identical (length of matching sequence >100 base pairs, density of identical matches over this region > 70%) were grouped (aligned) together in a cluster. Clusters containing more than 200 ESTs were discarded since they probably represented repetitive elements or highly expressed genes such as those for ribosomal proteins. If two or more clusters shared common ESTs, those clusters were grouped together into a "supercluster," resulting in 4,345 prostate superclusters.

Records for the 479 human cDNA libraries represented in the GenBank release were downloaded to create a database of these cDNA library records. These 479 cDNA libraries were grouped into three groups, Plus (normal prostate and prostate tumor libraries, and breast cell lines, in which expression was desired), Minus (libraries from other normal adult tissues, in which expression was not desirable), and Other (fetal tissue, infant tissue, tissues found only in women, non-prostate tumors and cell lines other than prostate cell lines, in which expression was considered to be irrelevant). A summary of these library groups is presented in Table II.

Table II  
Prostate cDNA Libraries and ESTs

Library	# of Libraries	# of ESTs
Plus	25	43,482
Normal	11	18,875
Tumor	11	21,769
Cell lines	3	2,838
Minus	166	
Other	287	

Each supercluster was analyzed in terms of the ESTs within the supercluster. The tissue source of each EST clone was noted and used to classify the superclusters into four groups: Type 1- EST clones found in the Plus group libraries only; no expression detected in Minus or Other group libraries; Type 2- EST clones found in the Plus and Other group libraries only; no expression detected in the Minus group; Type 3- EST clones found in the Plus, Minus and Other group libraries, but the expression in the Plus group is higher than in either the Minus or Other groups; and Type 4- EST clones found in Plus, Minus and Other group libraries, but the expression in the Plus group is higher than the expression in the Minus group. This analysis identified 4,345 breast clusters (*see* Table III). From these clusters, 3,172 EST clones were ordered from Research Genetics, Inc., and were received as frozen glycerol stocks in 96-well plates.

Table III  
Prostate Cluster Summary

Type	# of Superclusters	# of ESTs Ordered
1	688	677
2	2899	2484
3	85	11
4	673	0
Total	4345	3172

The inserts were PCR-amplified using amino-linked PCR primers for Synteni microarray analysis. When more than one PCR product was obtained for a particular clone, that PCR product was not used for expression analysis. In total, 2,528 clones from the electronic subtraction method were analyzed by microarray analysis to identify electronic subtraction breast clones that had high tumor vs. normal tissue mRNA. Such screens were performed using a Synteni (Palo Alto, CA) microarray, according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Within these analyses, the clones were arrayed on the chip, which was then probed with fluorescent probes generated from normal and tumor prostate cDNA, as well as various other normal tissues. The slides were scanned and the fluorescence intensity was measured.

Clones with an expression ratio greater than 3 (*i.e.*, the level in prostate tumor cDNA was at least three times the level in normal prostate cDNA) were identified as prostate tumor-specific sequences (Table IV). The sequences of these clones are provided in SEQ ID NOs:401-453, with certain novel sequences shown in SEQ ID NOs:407, 413, 416-419, 422, 426, 427 and 450.

Table IV  
Prostate-tumor Specific Clones

SEQ ID NO.	Sequence Designation	Comments
401	22545	previously identified P1000C
402	22547	previously identified P704P

403	22548	known
404	22550	known
405	22551	PSA
406	22552	prostate secretory protein 94
407	22553	novel
408	22558	previously identified P509S
409	22562	glandular kallikrein
410	22565	previously identified P1000C
411	22567	PAP
412	22568	B1006C (breast tumor antigen)
413	22570	novel
414	22571	PSA
415	22572	previously identified P706P
416	22573	novel
417	22574	novel
418	22575	novel
419	22580	novel
420	22581	PAP
421	22582	prostatic secretory protein 94
422	22583	novel
423	22584	prostatic secretory protein 94
424	22585	prostatic secretory protein 94
425	22586	known
426	22587	novel
427	22588	novel
428	22589	PAP
429	22590	known
430	22591	PSA
431	22592	known
432	22593	Previously identified P777P
433	22594	T cell receptor gamma chain
434	22595	Previously identified P705P
435	22596	Previously identified P707P
436	22847	PAP
437	22848	known
438	22849	prostatic secretory protein 57

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439	22851	PAP
440	22852	PAP
441	22853	PAP
442	22854	previously identified P509S
443	22855	previously identified P705P
444	22856	previously identified P774P
445	22857	PSA
446	23601	previously identified P777P
447	23602	PSA
448	23605	PSA
449	23606	PSA
450	23612	novel
451	23614	PSA
452	23618	previously identified P1000C
453	23622	previously identified P705P

#### EXAMPLE 15

##### FURTHER IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY MICROARRAY ANALYSIS

This Example describes the isolation of additional prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library as described above was screened using microarray analysis to identify clones that display at least a three fold over-expression in prostate tumor and/or normal prostate tissue, as compared to non-prostate normal tissues (not including testis). 142 clones were identified and sequenced. Certain of these clones are shown in SEQ ID NOs:454-467. Of these sequences SEQ ID NOs:459-461 correspond to novel genes. The others (SEQ ID NOs:454-458 and 461-467) correspond to known sequences.

#### EXAMPLE 16

##### FURTHER CHARACTERIZATION OF PROSTATE TUMOR ANTIGEN P710P

This Example describes the full length cloning of P710P.

The prostate cDNA library described above was screened with the P710P fragment described above. One million colonies were plated on LB/Ampicillin plates. Nylon membrane filters were used to lift these colonies, and the cDNAs picked up by these filters were then denatured and cross-linked to the filters by UV light. The P710P fragment was radiolabeled and used to hybridize with the filters. Positive cDNA clones were selected and their cDNAs recovered and sequenced by an automatic ABI Sequencer. Four sequences were obtained, and are presented in SEQ ID NOs:468-471.

From the foregoing, it will be appreciated that, although specific embodiments of the invention have been described herein for the purposes of illustration, various modifications may be made without deviating from the spirit and scope of the invention. Accordingly, the present invention is not limited except as by the appended claims.

## CLAIMS

1. An isolated polypeptide comprising at least an immunogenic portion of a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(a) sequences recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472;

(b) sequences that hybridize to any of the foregoing sequences under moderately stringent conditions; and

(c) complements of any of the sequence of (a) or (b).

2. An isolated polypeptide according to claim 1, wherein the polypeptide comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing polynucleotide sequences.

3. An isolated polypeptide comprising a sequence recited in any one of SEQ ID NO: 108, 112, 113, 114, 172, 176, 178, 327, 329, 331, 339 and 383.

4. An isolated polynucleotide encoding at least 15 amino acid residues of a prostate tumor protein, or a variant thereof that differs in one or more substitutions, deletions, additions and/or insertions such that the ability of the variant to react with antigen-specific antisera is not substantially diminished, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434,

435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing sequences.

5. An isolated polynucleotide encoding a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing sequences.

6. An isolated polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

7. An isolated polynucleotide comprising a sequence that hybridizes, under moderately stringent conditions, to a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

8. An isolated polynucleotide complementary to a polynucleotide according to any one of claims 4-7.

9. An expression vector comprising a polynucleotide according to any one of claims 4-7.

10. A host cell transformed or transfected with an expression vector according to claim 9.

11. An expression vector comprising a polynucleotide according claim 8.

12. A host cell transformed or transfected with an expression vector according to claim 11.

13. A pharmaceutical composition comprising a polypeptide according to claim 1, in combination with a physiologically acceptable carrier.

14. A vaccine comprising a polypeptide according to claim 1, in combination with a non-specific immune response enhancer.

15. A vaccine according to claim 14, wherein the non-specific immune response enhancer is an adjuvant.

16. A vaccine according to claim 14, wherein the non-specific immune response enhancer induces a predominantly Type I response.

17. A pharmaceutical composition comprising a polynucleotide according to claim 4, in combination with a physiologically acceptable carrier.

18. A vaccine comprising a polynucleotide according to claim 4, in combination with a non-specific immune response enhancer.

19. A vaccine according to claim 18, wherein the non-specific immune response enhancer is an adjuvant.

20. A vaccine according to claim 18, wherein the non-specific immune response enhancer induces a predominantly Type I response.

21. An isolated antibody, or antigen-binding fragment thereof, that specifically binds to a prostate tumor protein that comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472 or a complement of any of the foregoing polynucleotide sequences.

22. A pharmaceutical composition comprising an antibody or fragment thereof according to claim 18, in combination with a physiologically acceptable carrier.
23. A pharmaceutical composition comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with a pharmaceutically acceptable carrier or excipient.
24. A pharmaceutical composition according to claim 23, wherein the antigen presenting cell is a dendritic cell or a macrophage.
25. A vaccine comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with a non-specific immune response enhancer.
26. A vaccine according to claim 25, wherein the non-specific immune response enhancer is an adjuvant.
27. A vaccine according to claim 25, wherein the non-specific immune response enhancer induces a predominantly Type I response.
28. A vaccine according to claim 25, wherein the antigen-presenting cell is a dendritic cell.
29. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a polypeptide according to claim 1, and thereby inhibiting the development of a cancer in the patient.
30. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a polynucleotide according to claim 4, and thereby inhibiting the development of a cancer in the patient.
31. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antibody or antigen-binding fragment thereof according to claim 21, and thereby inhibiting the development of a cancer in the patient.

32. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antigen-presenting cell that expresses a polypeptide according to claim 1, and thereby inhibiting the development of a cancer in the patient.

33. A method according to claim 32, wherein the antigen-presenting cell is a dendritic cell.

34. A method according to any one of claims 29-32, wherein the cancer is prostate cancer.

35. A fusion protein comprising at least one polypeptide according to claim 1.

36. A fusion protein according to claim 35, wherein the fusion protein comprises an expression enhancer that increases expression of the fusion protein in a host cell transfected with a polynucleotide encoding the fusion protein.

37. A fusion protein according to claim 35, wherein the fusion protein comprises a T helper epitope that is not present within the polypeptide of claim 1.

38. A fusion protein according to claim 35, wherein the fusion protein comprises an affinity tag.

39. An isolated polynucleotide encoding a fusion protein according to claim 35.

40. A pharmaceutical composition comprising a fusion protein according to claim 32, in combination with a physiologically acceptable carrier.

41. A vaccine comprising a fusion protein according to claim 35, in combination with a non-specific immune response enhancer.

42. A vaccine according to claim 41, wherein the non-specific immune response enhancer is an adjuvant.

43. A vaccine according to claim 41, wherein the non-specific immune response enhancer induces a predominantly Type I response.

44. A pharmaceutical composition comprising a polynucleotide according to claim 40, in combination with a physiologically acceptable carrier.

45. A vaccine comprising a polynucleotide according to claim 40, in combination with a non-specific immune response enhancer.

46. A vaccine according to claim 45, wherein the non-specific immune response enhancer is an adjuvant.

47. A vaccine according to claim 45, wherein the non-specific immune response enhancer induces a predominantly Type I response.

48. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a pharmaceutical composition according to claim 40 or claim 44.

49. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a vaccine according to claim 41 or claim 45.

50. A method for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; and

(ii) complements of the foregoing polynucleotides;  
wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the prostate tumor protein from the sample.

51. A method according to claim 50, wherein the biological sample is blood or a fraction thereof.



52. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated according to the method of claim 50.

53. A method for stimulating and/or expanding T cells specific for a prostate tumor protein, comprising contacting T cells with one or more of:

- (i) a polypeptide according to claim 1;
  - (ii) a polypeptide encoded by a polynucleotide comprising a sequence provided in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;
  - (iii) a polynucleotide encoding a polypeptide of (i) or (ii); and/or
  - (iv) an antigen presenting cell that expresses a polypeptide of (i) or (ii);
- under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells.

54. An isolated T cell population, comprising T cells prepared according to the method of claim 53.

55. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population according to claim 54.

56. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

- (a) incubating CD4<sup>+</sup> and/or CD8<sup>+</sup> T cells isolated from a patient with at least one component selected from the group consisting of:
  - (i) a polypeptide according to claim 1;
  - (ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;
  - (iii) a polynucleotide encoding a polypeptide of (i) or (ii); or
  - (iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);

such that T cells proliferate; and

- (b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient.

57. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

(a) incubating CD4<sup>+</sup> and/or CD8<sup>+</sup> T cells isolated from a patient with at least one component selected from the group consisting of:

- (i) a polypeptide according to claim 1;
- (ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NOs: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;
- (iii) a polynucleotide encoding a polypeptide of (i) or (ii); or
- (iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);

such that T cells proliferate;

- (b) cloning at least one proliferated cell; and
- (c) administering to the patient an effective amount of the cloned T cells, and thereby inhibiting the development of a cancer in the patient.

58. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with a binding agent that binds to a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NOs: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; and

(ii) complements of the foregoing polynucleotides;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent; and

(c) comparing the amount of polypeptide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

59. A method according to claim 58, wherein the binding agent is an antibody.

60. A method according to claim 59, wherein the antibody is a monoclonal antibody.

61. A method according to claim 58, wherein the cancer is prostate cancer.
62. A method for monitoring the progression of a cancer in a patient, comprising the steps of:
- (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;
  - (b) detecting in the sample an amount of polypeptide that binds to the binding agent;
  - (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and
  - (d) comparing the amount of polypeptide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.
63. A method according to claim 62, wherein the binding agent is an antibody.
64. A method according to claim 63, wherein the antibody is a monoclonal antibody.
65. A method according to claim 62, wherein the cancer is a prostate cancer.
66. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:
- (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;
  - (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; and

(c) comparing the amount of polynucleotide that hybridizes to the oligonucleotide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

67. A method according to claim 66, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

68. A method according to claim 66, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

69. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polynucleotide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

70. A method according to claim 69, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

71. A method according to claim 69, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

72. A diagnostic kit, comprising:

- (a) one or more antibodies according to claim 21; and
- (b) a detection reagent comprising a reporter group.

73. A kit according to claim 72, wherein the antibodies are immobilized on a solid support.

74. A kit according to claim 73, wherein the solid support comprises nitrocellulose, latex or a plastic material.

75. A kit according to claim 72, wherein the detection reagent comprises an anti-immunoglobulin, protein G, protein A or lectin.

76. A kit according to claim 72, wherein the reporter group is selected from the group consisting of radioisotopes, fluorescent groups, luminescent groups, enzymes, biotin and dye particles.

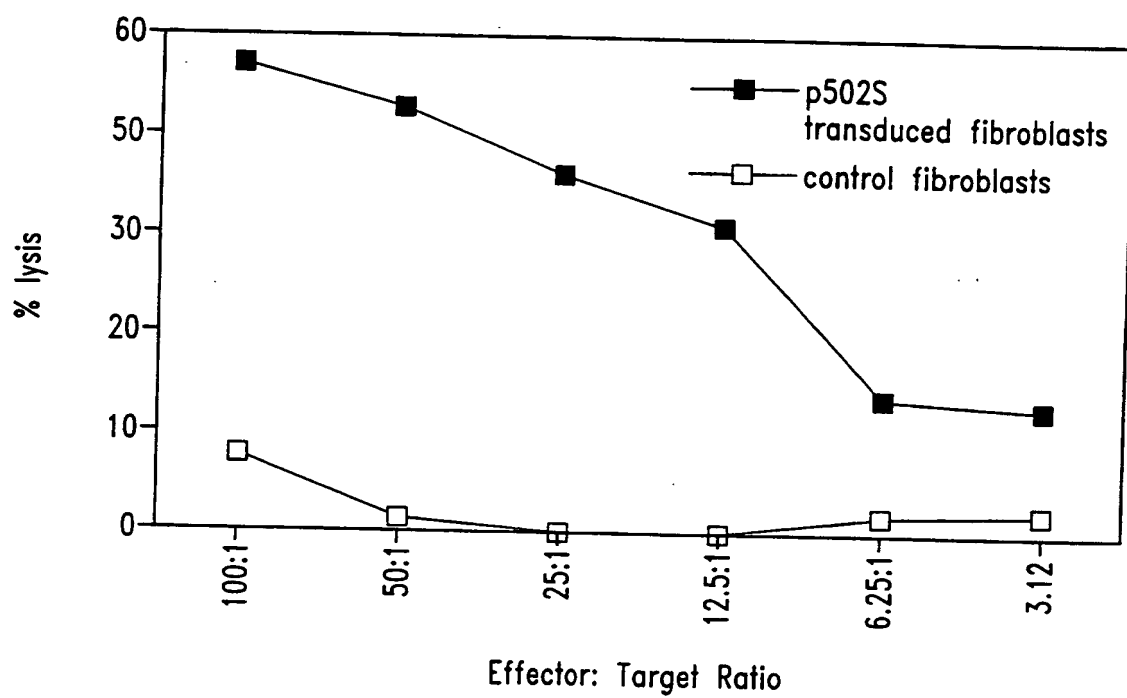
77. An oligonucleotide comprising 10 to 40 nucleotides that hybridize under moderately stringent conditions to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing polynucleotides.

78. A oligonucleotide according to claim 77, wherein the oligonucleotide comprises 10-40 nucleotides recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

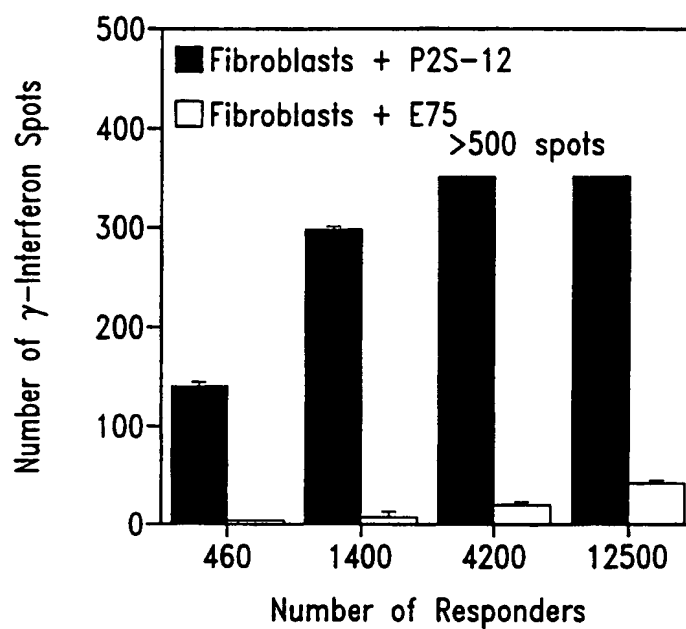
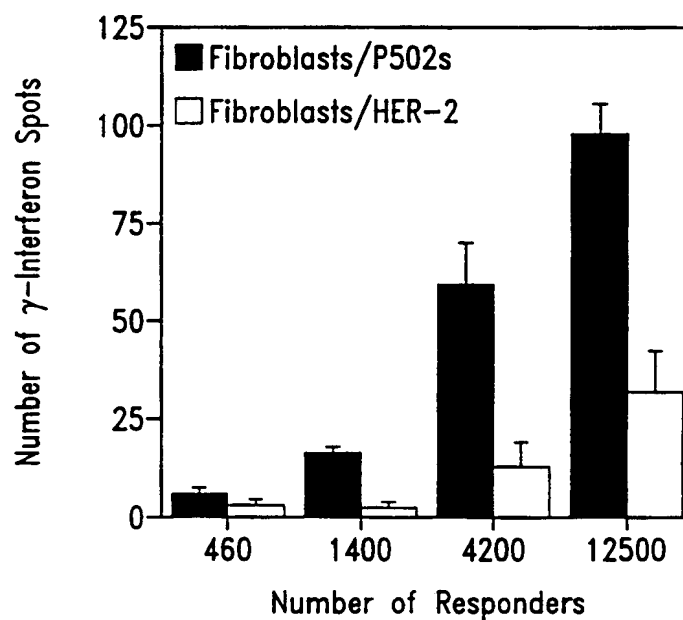
79. A diagnostic kit, comprising:

- (a) an oligonucleotide according to claim 77; and
- (b) a diagnostic reagent for use in a polymerase chain reaction or hybridization assay.

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*Fig. 1*

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*Fig. 2A**Fig. 2B*

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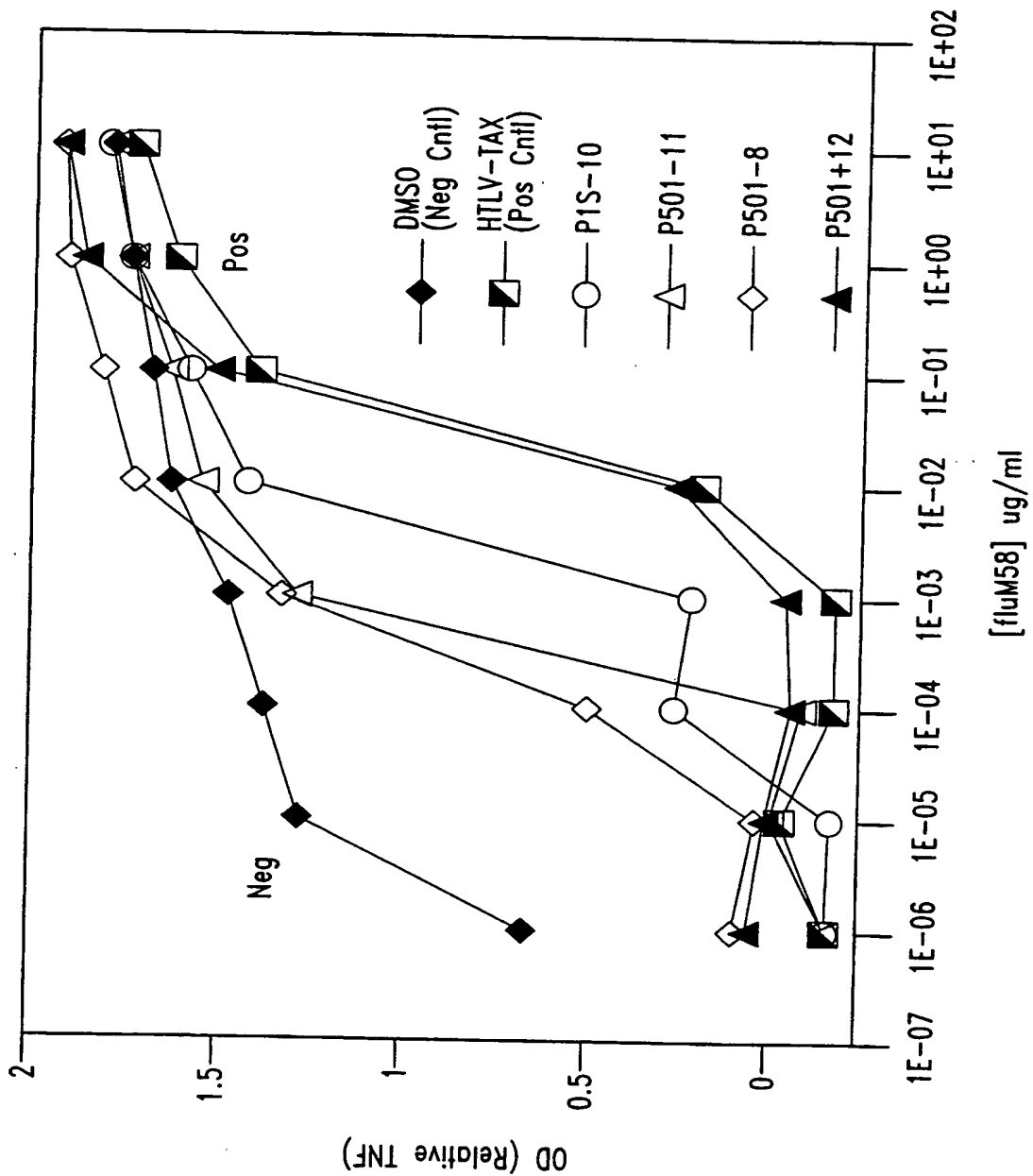
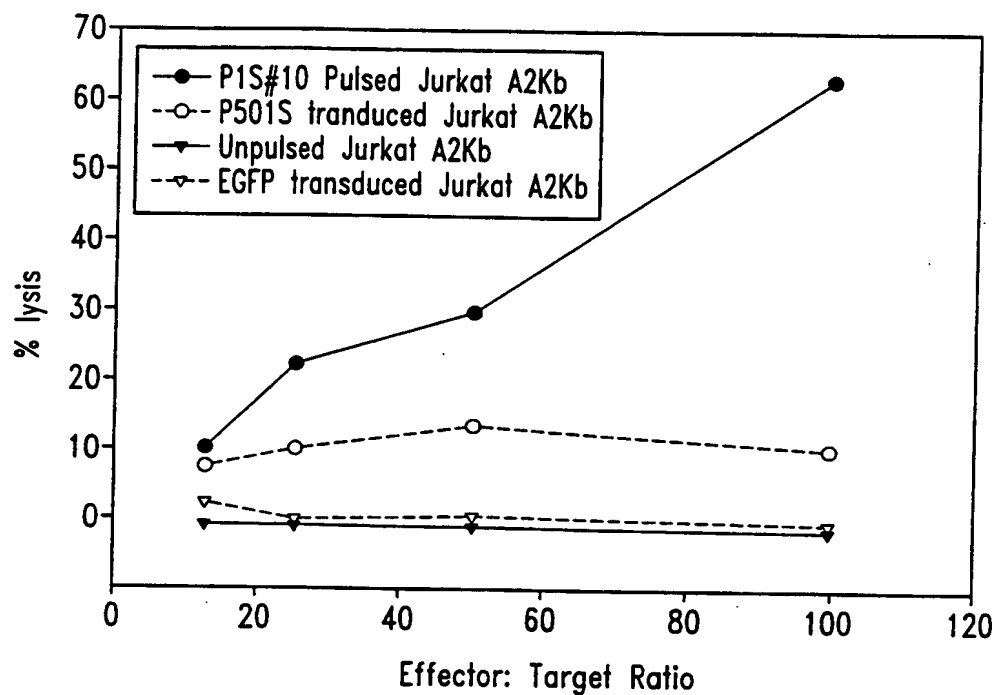
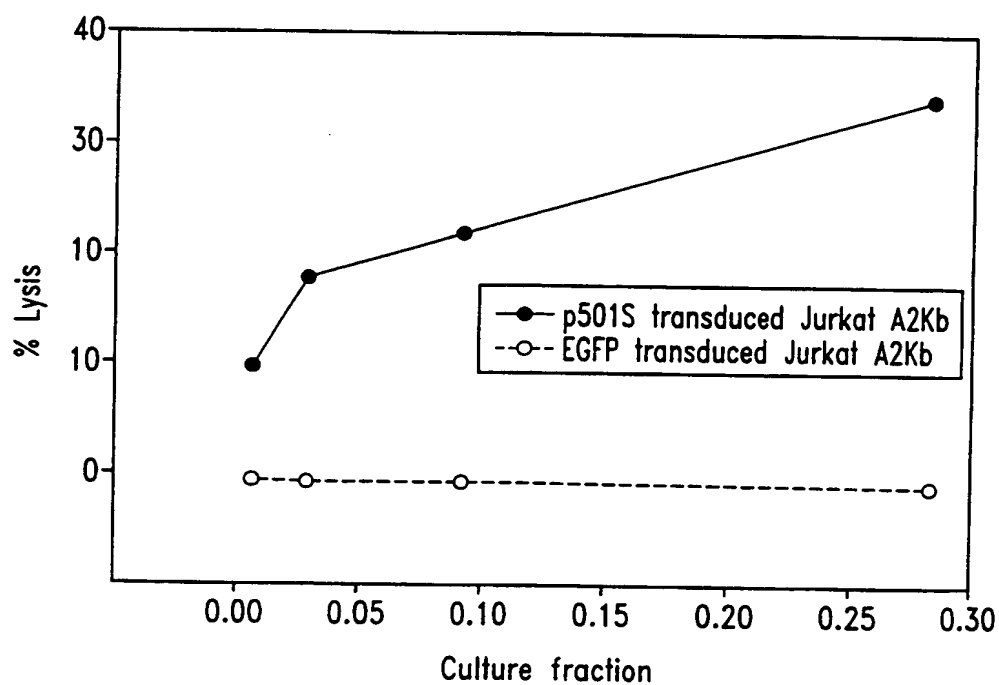


Fig. 3

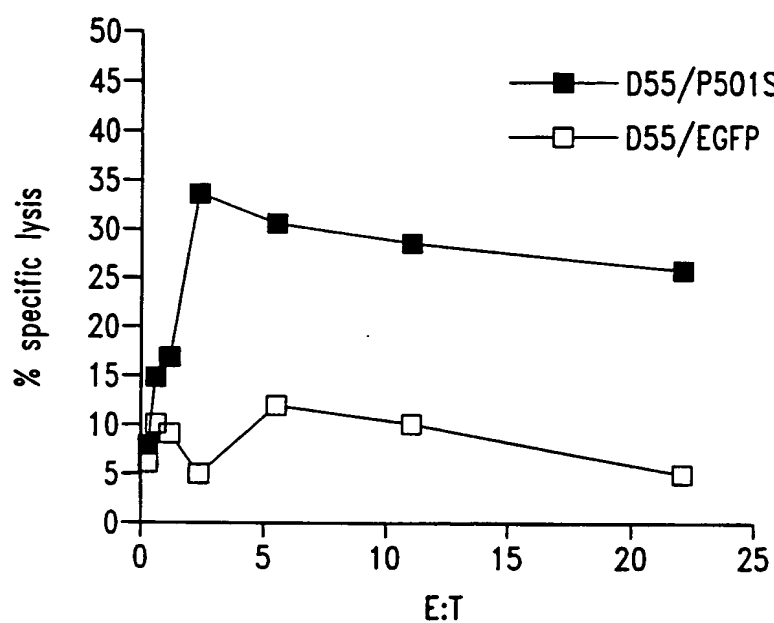
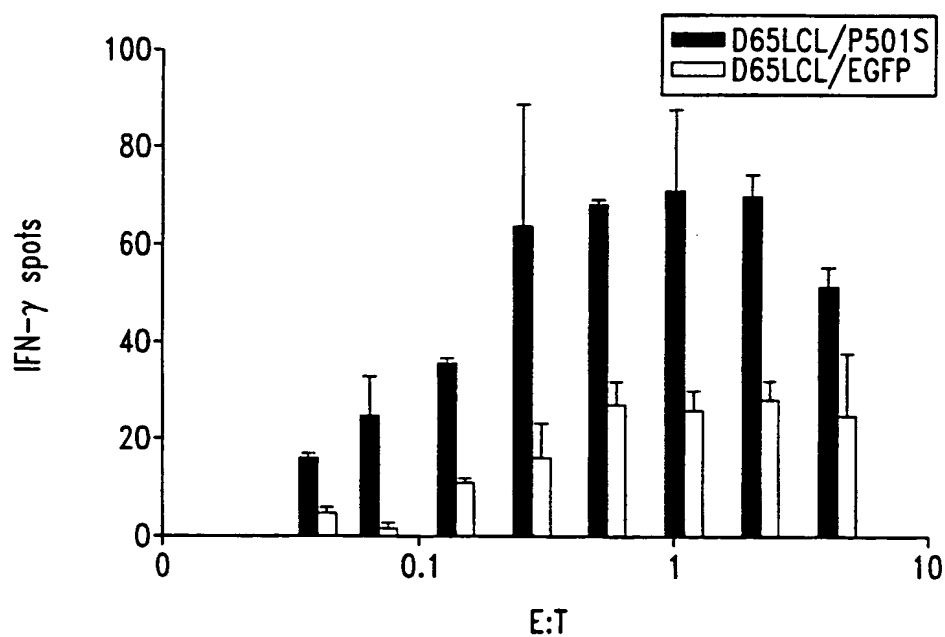


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*Fig. 4**Fig. 5*

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*Fig. 6**Fig. 7*

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## SEQUENCE LISTING

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OF PROSTATE CANCER AND METHODS FOR THEIR USE

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tcgctcattg	atcctngcnc	ccggtcttcg	gctgcggnga	acggttcact	cctcaaaggg	780
ggtntnccgg	ttatccccaa	acnggggata	cccnga			816

&lt;210&gt; 3

&lt;211&gt; 773

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(773)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 3

cttttgaaag	aagggatggc	tgggggtgtt	aacagcagag	gtgcagggcg	ggggctcacg	60
tcctgtcct	cactgggtgat	aaacgagccc	cgttccttgt	tgtgatcatg	atgaacaacc	120
tcctcaaaag	tcagaaccgg	agtcacacag	gcatctgtgc	cgtaaaagat	ttgacaccac	180
tctgccttcg	tcttctttgc	aaatacatct	gcaaacttct	tcttcatttc	tggccaatca	240
tccatgctca	tctgattggg	aagttcatca	gactttagtc	canntccttt	gatcagcagc	300
tcgtagaact	ggggttctat	tgtcccaaca	gccatgaatt	ccccatctgc	tgtcctgtaa	360
gtcgtataga	aaggtgctcc	accatccaac	atgttctgtc	ctcgaggggg	ggcccgggtac	420
ccaattcgcc	ctatantgag	tcgtattacg	cgcgctcact	ggccgctcgt	ttacaacgtc	480
gtgactggga	aaaccctggg	cgttaccaac	ttaatcgctt	tgcagcacat	ccccctttcg	540
ccagctgggc	gtaatancca	aaaggcccg	accgatcgcc	cttccaacag	ttgcgcacct	600
gaatgggnaa	atgggacccc	cctgttaccg	cgcattnaac	ccccgcnggg	tttngttgtt	660
acccccacnt	nnaccgctta	cacttttgcca	gcgccttanc	gcccgcctcc	tttcnccctt	720
cttcccttcc	tttcnncn	ctttcccccg	gggtttcccc	cntcaaacc	cna	773

&lt;210&gt; 4

&lt;211&gt; 828

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(828)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 4

cctcctgagt	cctactgacc	tgtgctttct	ggtgtggagt	ccagggctgc	taggaaaagg	60
aatgggcaga	cacaggtgta	tgccaatgtt	tctgaaatgg	gtataatttc	gtcctctcct	120
tcggaacact	ggctgtctct	gaagacttct	cgctcagttt	cagtgaggac	acacacaaag	180
acgtgggtga	ccatgttggt	tgtgggggtgc	agagatggga	gggggtgggc	ccaccctgga	240
agagtggaca	gtgacacaag	gtggacactc	tctacagatc	actgaggata	agctggagcc	300
acaatgcatg	aggcacacac	acagcaagga	tgacnctgta	aacatagccc	acgctgtcct	360

gngggcactg	ggaagcctan	atnaggccgt	gagcanaaag	aaggggagga	tccactagtt	420
ctanagcggc	cgccaccgcg	gtgganctcc	ancctttgtt	cccttttagtg	agggttaatt	480
gcgcgcttgg	cntaatcatg	gtcatanctn	tttcctgtgt	gaaattgtta	tccgctcaca	540
attccacaca	acatacganc	cggaaacata	aantgtaaac	ctgggggtgcc	taatgantga	600
ctaactcaca	ttaattgctg	tgcgctcact	gcccgccttc	caatcnggaa	acctgtcttg	660
ccncttgcat	tnatgaatcn	gccaaacccc	ggggaaaagc	gtttgcgttt	tgggcgctct	720
tccgcttcct	cnctcantta	ntccctncnc	tcggtcatte	cggctgcngc	aaaccgggtc	780
accnctcca	aaggggggtat	tccgggtttcc	ccnaatccgg	gganancc		828

&lt;210&gt; 5

&lt;211&gt; 834

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(834)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 5

tttttttttt	tttttactga	tagatggaat	ttattaagct	tttcacatgt	gatagcacat	60
agttttaatt	gcatccaaag	tactaacaaa	aactctagca	atcaagaatg	gcagcatgtt	120
attttataac	aatcaacacc	tgtggctttt	aaaatttggg	tttcataaga	taattttatac	180
tgaagtaaat	ctagccatgc	ttttaaaaaa	tgcttttaggt	cactccaagc	ttggcagtta	240
acatttggca	taaacaataa	taaaacaatc	acaatttaat	aaataacaaa	tacaacattg	300
taggccataa	tcatatacag	tataaggaaa	aggtggtagt	gttgagtaag	cagttattag	360
aatagaatac	cttggcctct	atgcaaatat	gtctagacac	tttgattcac	tcagccctga	420
cattcagttt	tcaaagtagg	agacagggtc	tacagtatca	ttttacagtt	tccaacacat	480
tgaaaacaag	tagaaaatga	tgagttgatt	tttattaatg	cattacatcc	tcaagagtta	540
tcaccaaccc	ctcagttata	aaaaattttc	aagttatatt	agtcataata	cttgggtgtgc	600
ttatttttaa	ttagtgttaa	atggattaag	tgaagacaac	aatgggtcccc	taatgtgatt	660
gatattgggc	attttttacca	gcttctaaat	ctnaactttc	aggcttttga	actggaacat	720
tgnatnacag	tgttccanag	ttncaaccta	ctggaacatt	acagtgtgct	tgattcaaaa	780
tgttattttg	ttaaaaatta	aatttttaacc	tggtggaaaa	ataatttgaa	atna	834

&lt;210&gt; 6

&lt;211&gt; 818

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(818)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 6

tttttttttt	tttttttttt	aagaccctca	tcaatagatg	gagacataca	gaaatagtca	60
aaccacatct	acaaaatgcc	agtatcaggc	ggcggtctcg	aagccaaagt	gatgtttgga	120
tgtaaagtga	aatattagtt	ggcggatgaa	gcagatagtg	aggaaagtgt	agccaataat	180
gacgtgaagt	ccgtggaagc	ctgtggctac	aaaaaatgtt	gagccgtaga	tgccgtcgga	240
aatggtgaag	ggagactcga	agtactctga	ggcttgtagg	agggtaaaat	agagaccag	300
taaaattgta	ataagcagtg	cttgaattat	ttggtttcgg	ttgttttcta	ttagactatg	360
gtgagctcag	gtgattgata	ctcctgatgc	gagtaatacg	gatgtgttta	ggagtgggac	420
ttctagggga	tttagcgggg	tgatgcctgt	tgggggccag	tgccctccta	gttgggggggt	480
aggggctagg	ctggagtggg	aaaaggctca	gaaaaatcct	gcgaagaaaa	aaacttctga	540

ggtaataaat	aggattatcc	cgtatcgaag	gccttttttg	acaggtggtg	tgtggtggcc	600
ttggtatgtg	ctttctcgtg	ttacatcgcg	ccatcattgg	tatatgggta	gtgtgttggg	660
ttantanggc	ctantatgaa	gaacttttgg	antggaatta	aatcaatngc	ttggccggaa	720
gtcattanga	nggctnaaaa	ggccctgtta	nggggtctgg	ctngggttta	cccnacccat	780
ggaatncncc	ccccggacna	ntgnatccct	attcttaa			818

<210> 7  
 <211> 817  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(817)  
 <223> n = A,T,C or G

<400> 7						
tttttttttt	tttttttttt	tggctctaga	gggggtagag	ggggtgctat	agggtaaata	60
cgggccctat	ttcaaagatt	tttaggggaa	ttaattctag	gacgatgggt	atgaaactgt	120
ggtttgctcc	acagatttca	gagcattgac	cgtagtatac	ccccggtcgt	gtagcgggtga	180
aagtggtttg	gttttagacgt	ccgggaattg	catctgtttt	taagcctaata	gtggggacag	240
ctcatgagtg	caagacgtct	tgtgatgtaa	ttattatacn	aatgggggct	tcaatcggga	300
gtactactcg	attgtcaacg	tcaaggagtc	gcaggtcgcc	tggttctagg	aataatgggg	360
gaagtatgta	ggaattgaag	attaatccgc	cgtagtcggt	gttctcctag	gttcaatacc	420
attggtggcc	aattgatttg	atggtaaggg	gagggatcgt	tgaactcgtc	tgttatgtaa	480
aggatncctt	ngggatggga	aggcnatnaa	ggactangga	tnaatggcgg	gcangatatt	540
tcaaacngtc	tctanttcct	gaaacgtctg	aaatgttaat	aanaattaan	tttngttatt	600
gaatnttng	gaaaagggtc	tacaggacta	gaaaccaaata	angaaaanta	atnntaangg	660
cnttatcntn	aaaggtnata	accnctccta	tnatcccacc	caatngnatt	ccccacnenn	720
acnattggat	nccccanttc	canaaanggc	cnccccccg	tgnannccnc	cttttgttcc	780
cttnantgan	ggttattcnc	ccctngcntt	atcanc			817

<210> 8  
 <211> 799  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(799)  
 <223> n = A,T,C or G

<400> 8						
catttccggg	tttactttct	aaggaaagcc	gagcgggaagc	tgctaacgtg	ggaatcggtg	60
cataaggaga	actttctgct	ggcacgcgct	agggacaagc	gggagagcga	ctccgagcgt	120
ctgaagcgca	cgtcccagaa	ggtggacttg	gcaactgaaac	agctgggaca	catccgcgag	180
tacgaacagc	gcctgaaagt	gctggagcgg	gaggtccagc	agtgtagccg	cgctctgggg	240
tgggtggccg	angcctganc	cgtcttgcc	tgctgcccc	angtgggccc	ccaccacctg	300
acctgcctgg	gtccaaacac	tgagccctgc	tggcggactt	caagganaac	ccccacangg	360
ggattttgct	cctanantaa	ggctcatctg	ggcctcggcc	ccccacactg	gttggccttg	420
tctttgangt	gagccccatg	tccatctggg	ccactgtcng	gaccaccttt	ngggagtgtt	480
ctccttacia	ccacannatg	cccggctcct	cccggaaacc	antccancc	tgngaaggat	540
caagnccctgn	atccactnnt	nctanaaccg	gccnccnccg	cngtggaacc	cnccttntgt	600
tccttttctnt	tnagggttaa	tnnccgcttg	gccttnccan	ngtcctnenc	nttttccnnt	660
gttnaaattg	ttangcnccc	nccnntcccn	cnnccnnan	cccgaaccnn	annttnnann	720

ncctgggggt necnnngat tgaccenncc necctntant tgcnttnggg nncnntgccc 780  
ctttccctct nggganncg 799

<210> 9  
<211> 801  
<212> DNA  
<213> Homo sapien  
  
<220>  
<221> misc\_feature  
<222> (1)...(801)  
<223> n = A,T,C or G

<400> 9  
acgccttgat cctcccaggc tgggactggt tctgggagga gccgggcatg ctgtgggttg 60  
taangatgac actcccaaag gtggtcctga cagtggccca gatggacatg gggctcacct 120  
caaggacaag gccaccaggt gcggggggccg aagcccacat gatccttact ctatgagcaa 180  
aatccctctgt gggggcttct ccttgaagtc cgccancagg gctcagtctt tggaccang 240  
caggtcatgg ggttgtngnc caactggggg ccncaacgca aaanggcncg gggcctcngn 300  
caccatccc angacgcggc tacactnctg gacctccnc tccaccactt tcatgcgctg 360  
ttcntaccg cgnatntgtc ccnctgttt cngtgccnac tccancttct nggacgtgag 420  
ctacatacgc ccggantcnc nctcccgtt tgtccctatc cacgtncan caacaaattt 480  
cncntantg caccnatcc cacntttnnc agntttccnc nncgngcttc cttntaaaag 540  
ggttganccc cggaaaatnc cccaaagggg gggggccngg tacccaactn cccctnata 600  
gctgaantcc ccatnaccnn gnetcnatgg anccntcct ttaannacn ttctnaactt 660  
gggaananc ctcgnccntn ccccnnttaa tcccncttg cnangnnct ccccnntcc 720  
nccnnntng gcntntnann cnaaaaaggc ccnnnancaa tctcctnncn cctcanttcg 780  
ccanccctcg aaatcgccn c 801

<210> 10  
<211> 789  
<212> DNA  
<213> Homo sapien  
  
<220>  
<221> misc\_feature  
<222> (1)...(789)  
<223> n = A,T,C or G

<400> 10  
cagtctatnt ggccagtgtg gcagctttcc ctgtggctgc cgggtgccaca tgccctgtccc 60  
acagtgtggc cgtggtgaca gcttcagccg ccctcaccgg gtacaccttc tcagccctgc 120  
agatcctgcc ctacacactg gcctccctct accaccggga gaagcagggtg ttctgccc 180  
aataccgagg ggacactgga ggtgctagca gtgaggacag cctgatgacc agcttcctgc 240  
caggccctaa gcctggagct cccttcctta atggacacgt ggggtgctgga ggcagtggcc 300  
tgctccccc tccaccgcg ctctgcgggg cctctgcctg tgatgtctcc gtacgtgtgg 360  
tggtgggtga gcccaccgan gccagggtgg ttccgggccc gggcatctgc ctggacctcg 420  
ccatcctgga tagtgcttcc tgctgtccca ngtggcccca tccctgttta tgggtctcct 480  
tgtccagctc agccagtctg tcaactgccta tatggtgtct gccgcaggcc tgggtctggt 540  
cccatttact ttgctacaca ggtantattt gacaagaacg anttgccaa atactcagcg 600  
ttaaaaaatt ccagcaacat tgggggtgga aggctgcct cactgggtcc aactccccgc 660  
tcctgttaac cccatggggc tgccggcttg gccgccaatt tctgttgcctg ccaaantnat 720  
gtggctctct gctgccacct gttgctggct gaagtgcnta cngcncanct ngggggggtng 780  
gnggttccc 789

<210> 11  
 <211> 772  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(772)  
 <223> n = A,T,C or G

<400> 11

cccaccctac	ccaaatatta	gacaccaaca	cagaaaagct	agcaatggat	tcccttctac	60
tttgtaaata	aaataagtta	aataatttaa	tgcctgtgtc	tctgtgatgg	caacagaagg	120
accaacaggc	cacatcctga	taaaaggtaa	gaggggggtg	gatcagcaaa	aagacagtgc	180
tgtgggctga	ggggacctgg	ttcttgtgtg	ttgccccca	ggactcttcc	cctacaaata	240
actttcatat	gttcaaattcc	catggaggag	tgtttcatcc	tagaaactcc	catgcaagag	300
ctacattaaa	cgaactgtga	ggtaaggggg	cttanagatg	ggaaaccagg	tgactgagtt	360
tattcagctc	ccaaaaaccc	ttctctaggt	gtgtctcaac	taggaggcta	gctgttaacc	420
ctgagcctgg	gtaatccacc	tgcagagtcc	ccgcattcca	gtgcatggaa	cccttctggc	480
ctccctgtat	aagtccagac	tgaaaccccc	ttggaaggnc	tccagtcagg	cagccctana	540
aactggggaa	aaaagaaaag	gacgccccan	ccccagctg	tgcanctacg	cacctcaaca	600
gcacagggtg	gcagcaaaaa	aaccacttta	ctttggcaca	aacaaaaact	ngggggggca	660
accccggcac	cccnangggg	gttaacagga	ancngggnaa	cntggaaccc	aattnaggca	720
ggcccncac	ccnaatntt	gctgggaaat	ttttcctccc	ctaaattntt	tc	772

<210> 12  
 <211> 751  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(751)  
 <223> n = A,T,C or G

<400> 12

gccccaatc	cagctgccac	accacccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgattga	agcaaccctc	tacttttttg	tcgtgagcct	tttgcttggt	gcaggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcaa	cagaatgggg	gaaaggcact	gttctctttg	180
aagtanggtg	agtcctcaaa	atccgtatag	ttggtgaagc	cacagcactt	gagccctttc	240
atgggtgggt	tccacacttg	agtgaagtct	tcctgggaac	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	ggaagtgtct	agccattgtg	gtgtacacca	aggcgaccac	360
agcagctgcn	acctcagcaa	tgaagatgan	gaggangatg	aagaagaacg	tcncgagggc	420
acacttgctc	tcagtcttan	caccatanca	gcccntgaaa	accaananca	aagaccacna	480
cnccggctgc	gatgaagaaa	tnaccccneg	ttgacaaaact	tgcatggcac	tggganccac	540
agtggccnna	aaaatcttca	aaaaggatgc	cccatcnatt	gaccccccaa	atgcccactg	600
ccaacagggg	ctgccccacn	cncnnaacga	tgancnatt	gnacaagatc	tncntggctc	660
tnatnaacnt	gaaccctgcn	tngtggctcc	tgttcaggnc	cnnggcctga	cttctnaann	720
aangaactcn	gaagncccca	cngganannc	g			751

<210> 13  
 <211> 729  
 <212> DNA  
 <213> Homo sapien



<220>  
 <221> misc\_feature  
 <222> (1)...(729)  
 <223> n = A,T,C or G

<400> 13

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tgtggancct	cagcagtncc	ctctttcaga	actcantgcc	aagancctg	aacaggagcc	120
accatgcagt	gcttcagctt	cattaagacc	atgatgatcc	tcttcaattt	gctcatcttt	180
ctgtgtggtg	cagccctggt	ggcagtgggc	atctgggtgt	caatcgatgg	ggcatccttt	240
ctgaagatct	tcgggccact	gtcgtccagt	gccatgcagt	ttgtcaacgt	gggctacttc	300
ctcatcgcat	ccggcggtgt	ggtcttagct	ctagggttcc	tgggctgcta	tggtgctaag	360
actgagagca	agtgtgccct	cgtgacgttc	ttcttcatcc	tctcctcat	cttcattgct	420
gaggttgcaa	tgtgtgggtc	gccttggtgt	acaccacaat	ggctgagcac	ttcctgacgt	480
tgtgtgtaat	gcctgccatc	aanaaaagat	tatgggttcc	caggaanact	tactcaagt	540
gttggaacac	caccatgaaa	gggtcgaagt	gctgtggctt	cnnccaacta	tacggatttt	600
gaagantcac	ctacttcaaa	gaaaanagtg	cctttccccc	atttctgttg	caattgacaa	660
acgtccccaa	cacagccaat	tgaaaacctg	cacccaaccc	aaanggggtcc	ccaaccanaa	720
attnaaggg						729

<210> 14  
 <211> 816  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(816)  
 <223> n = A,T,C or G

<400> 14

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tgttcgctga	aggggttgta	gtaccagcgc	gggatgctct	ccttgcagag	tcctgtgtct	120
ggcaggtcca	cgcagtcccc	tttgtcactg	gggaaatgga	tgcgctggag	ctcgtcaaaag	180
ccactcgtgt	atttttcaca	ggcagcctcg	tccgacgcgt	cggggcagtt	gggggtgtct	240
tcacactcca	ggaaactgtc	natgcagcag	ccattgctgc	agcggaaactg	ggtgggctga	300
cangtgccag	agcacactgg	atggcgcctt	tccatgnnan	gggcccctgng	ggaaagtccc	360
tganccccc	anctgcctct	caaangcccc	accttgcaca	ccccgacagg	ctagaatgga	420
atcttcttcc	cgaaaaggtag	ttnttcttgt	tgccc aancc	anccccntaa	acaaactctt	480
gcanatctgc	tccgnggggg	tcntantacc	ancgtgggaa	aagaaccccc	ggcngcgaac	540
caancttggt	tggatncgaa	gcnataatct	nctnttctgc	ttgggtggaca	gcaccantna	600
ctgtnnanct	ttagnccntg	gtcctcntgg	ggtgnncttg	aacctaatcn	ccnntcaact	660
gggacaagg	aantngccnt	cctttnaatt	cccnanctn	ccccctggtt	tgggggtttt	720
cncnctccta	ccccagaaan	nccgtgttcc	cccccaacta	ggggccnaaa	ccnnttnttc	780
cacaaccctn	ccccacccac	gggttcngnt	ggttng			816

<210> 15  
 <211> 783  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(783)  
 <223> n = A,T,C or G

&lt;400&gt; 15

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aagacccaaa	ccaggtggaa	ctgtggggac	tcaaggaang	cacctacctg	ttccagctga	180
cagtgactag	ctcagaccac	ccagaggaca	cggccaacgt	cacagtccct	gtgctgtcca	240
ccaagcagac	agaagactac	tgccctcgcat	ccaacaangt	gggtcgctgc	cggggctctt	300
ttccacgctg	gtactatgac	cccacggagc	agatctgcaa	gagtttcgtt	tatggaggct	360
gcttgggcaa	caagaacaac	taccttcggg	aagaagagtg	cattctancc	tgtcnggggtg	420
tgcaagggtg	gcctttgana	ngcanctctg	gggctcangc	gactttcccc	caggggcccct	480
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ncaatggctg	ctgcacnac	antttcctng	aattgtgaca	acacccccca	ntgcccccaa	600
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cncctccntt	ttccccnntn	aacaaagggc	nctngcnttt	gaactgcccn	aaccnnggaa	720
tctnccnngg	aaaaantncc	ccccctgggt	cctnnaancc	cctccncaaa	antncccccc	780
ccc						783

&lt;210&gt; 16

&lt;211&gt; 801

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (801)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 16

gccccaatc	cagctgccac	accacccacg	gtgactgcat	tagttcggat	gtcatataaaa	60
agctgattga	agcaaccctc	tacttttttg	tcgtgagcct	tttgcttggt	gcagggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcaa	cagaatgggg	gaaaggcact	gttctctttg	180
aagtaggggtg	agtcctcaaa	atccgtatag	ttgggtgaagc	cacagcactt	gagccctttc	240
atgggtggtgt	tccacacttg	agtgaagtct	tcctgggaac	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	gaagtgtctc	gccattgtgg	tgtacaccaa	ggcgaccaca	360
gcagctgcaa	cctcagcaat	gaagatgagg	aggaggatga	agaagaacgt	cncgagggca	420
cacttgctct	ccgtcttagc	accatagcag	cccangaaac	caagagcaaa	gaccacaacg	480
ccngctgcga	atgaaaagaaa	ntaccacagt	tgacaaactg	catggccact	ggacgacagt	540
tggcccgaan	atcttcagaa	aagggtatgc	ccatcgattg	aacacccana	tgccactgtc	600
cnacaggggt	gcncncncn	gaaagaatga	gccattgaag	aaggatcntc	ntgggtcttaa	660
tgaactgaaa	ccntgcatgg	tggccccctg	tcagggtctc	tggcagtga	ttctganaaa	720
aaggaacngc	ntnagcccc	ccaaangana	aaacaccccc	gggtgttgcc	ctgaattggc	780
ggccaaggan	ccctgccccn	g				801

&lt;210&gt; 17

&lt;211&gt; 740

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (740)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 17

gtgagagcca	ggcgtccctc	tgccctgcca	ctcagtggca	acacccggga	gctgttttgt	60
------------	------------	------------	------------	------------	------------	----

cctttgtgga	gcctcagcag	ttccctcttt	cagaactcac	tgccaagagc	cctgaacagg	120
agccaccatg	cagtgttca	gcttcattaa	gaccatgatg	atcctcttca	atttgctcat	180
ctttctgtgt	ggtgcagccc	tgttggcagt	gggcatctgg	gtgtcaatcg	atggggcatc	240
ctttctgaag	atcttcgggc	cactgtcgtc	cagtgccatg	cagtttgtca	acgtgggcta	300
cttcctcatc	gcagccggcg	ttgtggtctt	tgtcttgggt	ttcctgggct	gctatgggtg	360
taagacggag	agcaagtgtg	ccctcgtgac	gttcttcttc	atcctcctcc	tcattctcat	420
tgctgaagtt	gcagctgctg	tggtcgctt	ggtgtacacc	acaatggctg	aaccattcct	480
gacgttgctg	gtantgcctg	ccatcaanaa	agattatggg	ttcccaggaa	aaattcactc	540
aantntggaa	caccnccatg	aaaagggtc	caatttctgn	tggcttcccc	aactataccg	600
gaattttgaa	agantcnccc	tacttccaaa	aaaaaanant	tgccttttnc	ccenttctgt	660
tgcaatgaaa	acntcccaan	acngccaatn	aaaacctgcc	cnnncaaaaa	ggntcncaaa	720
caaaaaaant	nnaagggttn					740

&lt;210&gt; 18

&lt;211&gt; 802

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(802)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 18

ccgctgggtg	cgctgggtcca	gnagnagccac	gaagcacgtc	agcatcacaca	gcctcaatca	60
caagggtcttc	cagctgccgc	acattacgca	gggcaagagc	ctccagcaac	actgcatatg	120
ggatacactt	tacttttagca	gccagggtga	caactgagag	gtgtcgaagc	ttattcttct	180
gagcctctgt	tagtggagga	agattccggg	cttcagctaa	gtagtcagcg	tatgtcccat	240
aagcaaacac	tgtgagcagc	cgaaggttag	aggcaaagtc	actctcagcc	agctctctaa	300
cattggggcat	gtccagcagt	tctccaaaca	cgtagacacc	agnngcctcc	agcacctgat	360
ggatgagtg	ggccagcgct	gcccccttgg	ccgacttggc	taggagcaga	aattgctcct	420
ggttctgccc	tgtcaccttc	acttcgcgac	tcatactgc	actgagtggtg	ggggacttgg	480
gctcaggatg	tccagagacg	tggttcgcgc	ccctcnctta	atgacaccgn	ccanncaacc	540
gtcggctccc	gccgantgng	ttcgtcgtnc	ctgggtcagg	gtctgctggc	cnctacttgc	600
aanccttcgtc	ngggccatgg	aattcacnc	accggaactn	gtangatcca	ctnnttctat	660
aaccggnccg	caccgcnhnt	ggaactccac	tcttnttnc	tttacttgag	gggtaagggtc	720
accctttnccg	ttaccttgg	ccaaacctn	ccntgtgtcg	anatngtnaa	tcnggncna	780
tnccanccnc	atangaagcc	ng				802

&lt;210&gt; 19

&lt;211&gt; 731

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(731)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 19

cnaagcttcc	aggtnacggg	ccgcnaance	tgaccnagg	tancanaang	cagnncgagg	60
gagccaccg	tcacngngng	gngtctttat	nggagggggc	ggagccacat	cnctggacnt	120
cntgacccca	actccccncc	ncncantgca	gtgatgagtg	cagaactgaa	ggtnacgtgg	180
caggaaacca	gancaaannc	tgctccnntc	caagtcggcn	nagggggcgg	ggctggccac	240
gcncatccnt	cnagtgtctg	aaagccccnn	cctgtctact	tgtttgagga	acngcnnga	300

catgcccagn	gttanataac	nggcngagag	tnantttgcc	tctcccttcc	ggctgcgcan	360
cngtntgct	tagnggacat	aacctgacta	cttaactgaa	cccngaatac	tnccnccct	420
ccactaagct	cagaacaaaa	aacttcgaca	ccactcantt	gtcacctgnc	tgctcaagta	480
aagtgtacct	catncccaat	gtntgctnga	ngctctgncc	tgcnttangt	tcggtcctgg	540
gaagacctat	caattnaagc	tatgtttctg	actgcctctt	gtccctgna	acaancnacc	600
cnncnntcca	agggggggnc	ggcccccaat	ccccccaacc	ntnaattnan	tttancccn	660
ccccngggcc	cggcctttta	cnancntcnn	nnacngggna	aaaccnngc	tttncccaac	720
nnaatccncc	t					731

<210> 20  
 <211> 754  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(754)  
 <223> n = A,T,C or G

<400> 20						
tttttttttt	tttttttttt	taaaaacccc	ctccattnaa	tgnaaacttc	cgaaattgtc	60
caacccccctc	ntccaaatnn	ccntttccgg	gnggggggttc	caaacccean	ttanntttgg	120
annttaaatt	aaatnttntt	tgngggnnna	anccnaatgt	nangaaagtt	naaccanta	180
tnancttnaa	tncttgga	ccngtngntt	ccaaaaatnt	ttaaccctta	antccctccg	240
aaatngtttna	nggaaaaccc	aantttctnt	aagggtgttt	gaaggntnaa	tnaaaanccc	300
nnccaattgt	ttttngccac	gectgaatta	attggnttcc	gntgttttcc	nttaaaanaa	360
ggnnancccc	ggttantnaa	ttcccccnnc	cccaattata	ccganttttt	ttngaattgg	420
gancccnccg	gaattaacgg	ggnnnnntccc	tnntgggggg	cnggnncccc	ccccntcggg	480
ggttngggnc	aggnccnaat	tgtttaaggg	tccgaaaaat	ccctccnaga	aaaaaanctc	540
ccaggntgag	nntnggggtt	nncccccccc	cangggccct	ctcgnaagtt	tggggtttgg	600
ggggcctggg	attttntttc	ccctnttncc	ttcccccccc	ccnggganag	aggttngngt	660
tttgntcnn	ggccccnccn	aaganctttt	ccganttnan	ttaaatccnt	gcctnggcga	720
agtcnnttgn	agggnntaaan	ggccccctnn	cggg			754

<210> 21  
 <211> 755  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(755)  
 <223> n = A,T,C or G

<400> 21						
atcancccat	gaccccnac	nngggaccnc	tcanccggnc	nnncnaccnc	cggecnatca	60
nngtnagnnc	actnennntn	natcacnccc	cncnactac	gccnncnanc	cnacgcnetc	120
nncanattnc	actganngcg	cgangtngan	ngagaaanct	nataccanag	ncaccanacn	180
ccagctgtcc	nanaangcct	nnnatacngg	nnnatccaat	ntgnancctc	cnaagtattn	240
nncnncanac	gattttcctn	anccgattac	ccntncccc	tancccttcc	cccccaacna	300
cgaaggcnct	ggncnnaagg	nngcgnccnc	ccgctagntc	cccnncnaagt	cncnncctc	360
aactcanccn	nattacnccg	ttcntgagta	tactcccccg	aatctcacc	tactcaactc	420
aaaaanacn	gatacaaaat	aatncaagcc	tgnttatnac	actntgactg	ggctctctatt	480
ttagnngtcc	ntnaancntc	ctaatacttc	cagtctncc	tcnccaattt	ccnaanggct	540
ctttcngaca	gcattntttg	gttcccnntt	gggttcttan	ngaattgccc	ttcntngaac	600

gggctcttct	tttcttcgg	ttancctggn	ttcnncggc	cagttattat	ttccentttt	660
aaattcttnc	cntttanttt	tggcnttcna	aacccccggc	cttgaaaacg	gccccctggg	720
aaaaggttgt	tttganaaaa	tttttgtttt	gttcc			755

<210> 22  
 <211> 849  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(849)  
 <223> n = A,T,C or G

<400> 22						
tttttttttt	tttttangtg	tngtcgtgca	ggtagaggct	tactacaant	gtgaanacgt	60
acgctnggan	taangcgacc	cgantttctag	ganncnccct	aaaatcanac	tgtgaagatn	120
atcctgnnna	cggaanggtc	accggnngat	nntgctaggg	tgncnctcc	cannncttn	180
cataactcng	nggccctgcc	caccaccttc	ggcggcccg	ngnccgggcc	cgggtcattn	240
gnnttaaccn	cactnngcna	nccggttccn	nccccnncng	accnnggcga	tccgggggtnc	300
tctgtcttcc	cctgnagncn	anaaantggg	ccnccggnccc	ctttaccctt	nnacaagcca	360
cngcctteta	ncnccngccc	ccccctccant	nnggggggact	gcnannngct	ccgttncctng	420
nnaccccnnn	gggtncctcg	gttgctcgant	cnaccgnang	ccanggatc	cnaaggaagg	480
tgcgttnttg	gccccctacc	ttcgttncgg	nnaccccttc	ccgacnanga	nccgctccc	540
cncnccgnng	cctcncctcg	caacacccgc	nctcntcngt	ncggnnnccc	ccccacccgc	600
nccctcncnc	ngnccgnancn	ctccnccncc	gtctcannca	ccaccccgcc	ccgccaggcc	660
ntcanccacn	ggngacnng	nagcnccntc	gcnccgcgcn	gcgnccctt	cgccnccngaa	720
ctnccntcng	ccantnccgc	tcaancnna	cnaaacgcgc	ctgcgcggcc	cgnagcgncc	780
ncctccncca	gtcctcccgn	cttcnacc	angnnttccn	cgaggacacn	nnaccccgcc	840
nncangcgg						849

<210> 23  
 <211> 872  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(872)  
 <223> n = A,T,C or G

<400> 23						
gcgcaaacta	tacttcgctc	gnactcgtgc	gcctcgtcnc	tcttttcttc	cgcaaccatg	60
tctgachanc	ccgattnggc	ngatatenan	aagntcganc	agtccaaact	gantaacaca	120
cacacnncn	aganaaatcc	nctgccttcc	anagtanacn	attgaacnng	agaaccangc	180
nggcgaatcg	taatnaggcg	tgcgcgcgca	atntgtcncc	gtttattntn	ccagctcnc	240
ctnccnacc	tactcttctn	nagctgtcnn	acccctngtn	cgnaccccc	naggtcggga	300
tccgggtttn	nntgaccgng	cnccctctcc	ccccctccat	nacganccnc	ccgcaccacc	360
nanngcncc	ncccggnct	cttcgcnc	ctgtcctntn	cccctgtngc	ctggcnccng	420
accgcattga	cctcgcgnn	ctnccnngaa	ncgnanacgt	ccgggttggn	annancgctg	480
tgggnnngcg	cttcgcgcg	gttcctccn	ncncttcca	ccatcttct	tacngggctc	540
ccnccgctc	tcnnccacnc	cctgggaagc	ntccctntgc	cccccttnac	tccccctt	600
cgncgtgncc	cgccccacc	ntcatttnca	nacgntcttc	acaannncct	ggntnncctc	660
cnancngnnc	gtcanccnag	ggaagggngg	ggnnccnntg	nttgacgttg	ngngngangtc	720
cgaanantcc	tcnccntcan	cncctaccct	cgggcgnnct	ctcngttnc	aacttancaa	780

ntctcccccg ngngcnentc tcagcctenc ccccccnct ctctgcantg tntctctgctc 840  
tnaccnntac gantnttcgn cncctcttt cc 872

<210> 24  
<211> 815  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(815)  
<223> n = A,T,C or G

<400> 24  
gcatgcaagc ttgagtattc tatagngtca cctaaatanc ttggcntaat catggctenta 60  
nctgncttcc tgtgtcaaata gtatacnaaa tanatatgaa tctnatntga caaganngta 120  
tctnccatta gtaacaantg tnttgtccat cctgtcngan canattccca tnnattncgn 180  
cgcattcnen gencantatn taatngggaa ntcnnntnnn ncaccnncat ctatcntncc 240  
gncctcgac tggagagat ggatnattc tntnttgacc nacatgttca tcttggattn 300  
aanaccccc cgcngnccac cgggtngnng cnagccnntc ccaagacctc ctgtggagggt 360  
aacctgcgtc aganncatca aacntgggaa acccgcncc angtnnaagt ngnnncanan 420  
gatcccgctc aggnntnacc atcccttcnc agcgccccct ttngtgcctt anagngnagc 480  
gtgtccnanc cnetcaacat ganacgcgcc agnccanccg caattnggca caatgtcgnc 540  
gaacccccct ggggggantna tncaaanccc caggattgtc cncncangaa atcccnanc 600  
cccncctac cennctttgg gacngtgacc aantcccga gtncagtcg gccngnctc 660  
ccccaccggt nncntgggg ggggtgaant cngnntcanc cngnccaggn ntcgnaagga 720  
accggnccctn ggnccgaanng ancnntcnga agngccnct cgtataacce cccctcncca 780  
nccnacngnt agntcccccc cngggtnccg aangg 815

<210> 25  
<211> 775  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(775)  
<223> n = A,T,C or G

<400> 25  
ccgagatgtc tcgctccgtg gccttagctg tgctcgcgt actctctctt tctggcctgg 60  
aggctatcca gcgtactcca aagattcagg tttactcacg tcatccagca gagaatggaa 120  
agtcaaattt cctgaattgc tatgtgtctg ggtttcatcc atccgacatt gaanttgact 180  
tactgaagaa tgganagaga attgaaaaag tggagcattc agacttgtct ttcagcaagg 240  
actggtcttt ctatctctg tactacactg aattcacccc cactgaaaaa gatgagtatg 300  
cctgcccgtg gaaccatgtg actttgtcac agcccaagat agttaagtgg gatcgagaca 360  
tgtaagcagn cnnatggaa gtttgaagat gccgcatttg gattggatga attccaaatt 420  
ctgcttgcct gcnttttaaat antgatatgc ntatacacc taccctttat gncccccaaat 480  
tgtaggggtt acatnantgt tcnentngga catgatcttc ctttataant cncncttctg 540  
aattgcccgt cncnctttn ngaatgtttc cnaaaccag gttggctccc ccaggctncc 600  
tcttacggaa gggcctgggc cnettttncaa ggttggggga accnaaaatt tcncttntgc 660  
cncnccncca cnetcttng nncncanttt ggaacccttc cnattccct tggcctcnna 720  
nccttnncta anaaaacttn aaancgtngc naaanntttn acttcccccc ttacc 775

<210> 26

<211> 820  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (820)  
 <223> n = A,T,C or G

<400> 26  
 anattantac agtgtaatct tttcccagag gtgtgtanag ggaacggggc ctagaggcat 60  
 cccanagata ncttatanca acagtgcctt gaccaagagc tgctgggcac atttcctgca 120  
 gaaaagggtg cgggtcccat cactcctcct ctcccatagc catcccagag gggtgagtag 180  
 ccatcangcc ttcgggtggga gggagtcang gaaacaacan accacagagc anacagacca 240  
 ntgatgacca tgggcgggag cgagcctctt ccctgnaccg ggggtggcna nganagccta 300  
 nctgaggggt cacactataa acgttaacga ccnagatnan cacctgcctc aagtgcaccc 360  
 ttctacctg acnaccagng accnnnaact gcngcctggg gacagcncct ggancagcta 420  
 acnnagcact cacctgcccc cccatggccg tncgcntccc tggctcctgnc aaggggaagct 480  
 ccctgttgga attncgggga naccaaggga nccccctcct ccantctgtga aggaaaaann 540  
 gatggaattt tnccttccg gccnntcccc tcttctctta cacgccccct nntactcnc 600  
 tccctctntt ntctgncnc acttttnacc ccnnnatttc ccttnattga tcggannctn 660  
 ganattccac tnncgctnc cntcnatcng naanacnaaa nactntctna ccnggggat 720  
 gggnnccctg ntcactctct ctttttctct accnccnntt ctttgccctc ccttngatca  
 780tccaaccntc gntggcctn ccccccnntt tcttttnecc  
 820

<210> 27  
 <211> 818  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (818)  
 <223> n = A,T,C or G

<400> 27  
 tctgggtgat ggcctcttcc tcctcaggga cctctgactg ctctgggcca aagaatctct 60  
 tgtttcttct ccgagcccca ggcagcgggtg attcagccct gcccaacctg attctgatga 120  
 ctgcggtatgc tgtgacggac ccaaggggca aatagggtcc cagggtccag ggaggggagc 180  
 ctgctgagca ctcccgcccc tcaccctgcc cagccctgc catgagctct gggctgggtc 240  
 tccgcctcca gggttctgct ctccangca ngccancaa tggcgctggg ccacactggc 300  
 ttcttctgct cccntccctg gctctgante tctgtcttcc tgtcctgtgc angcnccttg 360  
 gatctcagtt tccctcncctc anngaactct gtttctgann tcttcantta actntgantt 420  
 tatnaccnan tggntctgnc tgcnnactt taatgggcn gaccggctaa tccctccctc 480  
 nctcccttcc anttcnnna accngettnc cntctctcct ccntancccg ccnggggaanc 540  
 ctcccttgcc ctnaccangg gccnnnaccg ccctnnctn ggggggcnng gtnnctncnc 600  
 ctgntnnccc cncctcncnt tncctcgctc cncnnnccn nngcannttc ncngtcccn 660  
 tnnctcttcn ngntcgnaa ngntcncntn tnnnnngncn ngntnntncn tccctctcnc 720  
 cnnntgnang tnnntnnnc ncngnccccc nnnnnnnnn nggnntnnn tctncncngc 780  
 cccnncccc ngnattaagg cctcncntct ccggccnc 818

<210> 28  
 <211> 731  
 <212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(731)

<223> n = A,T,C or G

<400> 28

aggaagggcg	gagggatatt	gtangggatt	gagggatagg	agnataangg	gggaggtgtg	60
tcccaacatg	anggtgnngt	tctcttttga	angaggggtg	ngtttttann	ccnggtgggt	120
gattnaaccc	cattgtatgg	agnnaaagg	tttnagggat	ttttcggctc	ttatcagtat	180
ntanattcct	gtnaatcgg	aaatnatntt	tcnncnggaa	aatnttgctc	ccatccgnaa	240
attnctcccg	ggtagtgcat	nttnggggg	cngccangtt	tcccaggctg	ctanaatcgt	300
actaaagntt	naagtgggan	tncaaataa	aacctnnac	agagnatccn	tacccgactg	360
tnnnttncct	tcgcccctng	actctgcnn	agcccaatac	ccnngngnat	gtcncncn	420
nnngcgcnc	tgaaannnnc	tcgnggctnn	gancatcang	gggtttcgca	tcaaaagcnn	480
cgtttncat	naaggcactt	tngcctcatc	caaccnctng	ccctcnncca	tttngccgctc	540
nggttncct	acgctnntng	cncctnnntn	ganattttnc	ccgcttnggg	naancctcct	600
gnaatgggta	gggncttntc	ttttnacnnc	ngggtntact	aatcnnctnc	acgcntnctt	660
tctcnacccc	cccccttttt	caatcccanc	ggcnaatggg	gtctcccenn	cgangggggg	720
nnnccannc	c					731

<210> 29

<211> 822

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(822)

<223> n = A,T,C or G

<400> 29

actagtccag	tgtgggtggaa	ttccattgtg	ttggggncnc	ttctatgant	antnttagat	60
cgctcanacc	tcacancctc	ccnacnangc	ctataangaa	nannaataga	nctgtncnnt	120
atntntacnc	tcatanncct	cnnnaccac	tccctcttaa	ccntactgt	gcctatngcn	180
tnnctantct	ntgcgcctn	cnanccacn	gtgggcccac	cncnngnat	ctcnatctcc	240
tcnccatntn	gcctananta	ngtncatacc	ctataacctac	nccaatgcta	nnnctaanch	300
tccatnantt	annntaacta	ccactgaent	ngactttenc	atnanctcct	aatttgaatc	360
tactctgact	cccacngcct	annnattagc	ancntcccc	nacnatntct	caaccaaaatc	420
ntcaacaacc	tatctanctg	ttcnccaacc	nttncctccg	atccccnnac	aacccccctc	480
ccaaataccc	nccacctgac	ncctaaccn	caccatcccg	gcaagccnan	ggncatttan	540
ccactggaat	cacnatngga	naaaaaaaaa	ccnaactctc	tancncnnat	ctccctaana	600
aatnctcctn	naatttactn	ncantnccat	caancccaac	tgaaacnnaa	ccccgttttt	660
tanatccctt	ctttcgaaaa	ccnacccttt	annncccaac	ctttngggcc	ccccnctnc	720
ccnaatgaag	gncncccaat	cnangaaacg	ncntgaaaa	ancnaggcna	anannntccg	780
canatcctat	cccttanttn	ggggncctt	nccnggggcc	cc		822

<210> 30

<211> 787

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature



&lt;222&gt; (1) ... (787)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 30

cggccgcctg	ctctggcaca	tgcctcctga	atggcatcaa	aagtgatgga	ctgcccattg	60
ctagagaaga	ccttctctcc	tactgtcatt	atggagccct	gcagactgag	ggctcccctt	120
gtctgcagga	tttgatgtct	gaagtcgtgg	agtgtggctt	ggagctcctc	atctacatna	180
gctggaagcc	ctggagggcc	tctctcgcca	gcctccccct	tctctccacg	ctctccangg	240
acaccagggg	ctccaggcag	cccattattc	ccagnangac	atgggtgttc	tccacgcgga	300
cccatggggc	ctgnaaggcc	agggctctct	ttgacaccat	ctctcccgtc	ctgcctggca	360
ggcgtggga	tccactantt	ctanaacggn	cgccaccncg	gtgggagctc	cagcttttgt	420
tcccnttaat	gaaggttaat	tgcncgcttg	gcgtaatcat	nggtcanaac	tntttcctgt	480
gtgaaattgt	ttntcccctc	ncnatccnc	ncnacatacn	aacccggaan	cataaagtgt	540
taaagcctgg	gggtngcctn	nngaataaac	tnaactcaat	taattgcgtt	ggctcatggc	600
ccgctttccn	ttcnggaaaa	ctgtcntccc	ctgcnttntt	gaatcgggca	ccccccnggg	660
aaaagcgggt	tgcnttttng	gggntcctt	ccncttcccc	cctcncctaan	ccctncgcct	720
cggtcgttnc	nggtngcggg	gaangggnat	nnnctccnc	naagggggng	agnnngntat	780
ccccaaa						787

&lt;210&gt; 31

&lt;211&gt; 799

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (799)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 31

tttttttttt	tttttttggc	gatgctactg	tttaattgca	ggaggtgggg	gtytgtgtac	60
catgtaccag	ggctattaga	agcaagaagg	aaggagggag	ggcagagcgc	cctgctgagc	120
aacaaaggac	tcctgcagcc	ttctctgtct	gtctcttggc	gcaggcacat	ggggaggcct	180
cccgcagggg	ggggggccacc	agtccagggg	tgggagcact	acanggggtg	ggagtgggtg	240
gtggctggtn	cnaatggcct	gncacanatc	cctacgattc	ttgacacctg	gatttcacca	300
ggggaccttc	tgtttctccc	nggnaacttc	ntnnatctcn	aaagaacaca	actgtttctt	360
cngcanttct	ggctgttcat	ggaaagcaca	ggtgtccnat	ttnggctggg	acttgggtaca	420
tatggttccg	gcccacctct	ccntcnaaan	aagtaattca	ccccccccc	ccntctnttg	480
cctggggcct	taantaccca	caccggaaact	canttantta	ttcatcttng	gntgggcttg	540
ntnatcncn	cctgaangcg	ccaagttgaa	aggccacgcc	gtncnccnctc	cccatagnan	600
nttttnnent	canctaatgc	ccccccnggc	aacnatccaa	tccccccccc	tggggggcccc	660
agcccanggc	ccccgnctcg	ggnnnccngn	cncgnantcc	ccaggntctc	ccantcngnc	720
ccnnngcncc	cccgacgcga	gaacanaagg	ntngagccnc	cgcannnnnn	nggtnncnac	780
ctcgcccccc	ccnnccgng					799

&lt;210&gt; 32

&lt;211&gt; 789

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (789)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 32

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tttttccnag	ggcaggttta	ttgacaacct	cncgggacac	aancaggctg	gggacaggac	120
ggcaacaggc	tccggcgggc	gcgggcgggc	ccctacctgc	ggtaccaa	ntgcagcctc	180
cgctcccgt	tgatnttct	ctgcagctgc	aggatgccnt	aaaacagggc	ctcggccntn	240
ggtgggcacc	ctgggatttn	aatttccacg	ggcacaatgc	ggtcgcance	cctcaccacc	300
nattaggaat	agtggtnnta	cccnccnccg	ttggcncact	ccccntggaa	accacttntc	360
gcggtctccg	catctggtct	taaaccttgc	aaacnctggg	gccctctttt	tggttantnt	420
nccngccaca	atcatnactc	agactggcnc	gggctggccc	caaaaaancn	ccccaaaacc	480
ggncatgtc	ttnnccgggt	tgctgcnatn	tncatcacct	cccgggcnca	ncaggncaac	540
ccaaaagttc	ttgnngcccn	caaaaaanct	ccggggggnc	ccagtttcaa	caaagtcac	600
ccccttggcc	cccaaaccct	ccccccgntt	nctgggtttg	ggaaccacg	cctctnnctt	660
tggnnggcaa	gntggntccc	ccttcggggc	cccggtgggc	ccnctcttaa	ngaaaacncc	720
ntcctnnnca	ccatcccccc	nngnnacgnc	tancaangna	tccctttttt	tanaaacggg	780
ccccccnccg						789

&lt;210&gt; 33

&lt;211&gt; 793

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(793)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 33

gacagaacat	gttggatggt	ggagcacctt	tctatacgac	ttacaggaca	gcagatgggg	60
aattcatggc	tggttgagca	atanaacccc	agttctacga	gctgctgac	aaaggacttg	120
gactaaagtc	tgatgaactt	cccaatcaga	tgagcatgga	tgattggcca	gaaatgaana	180
agaagtgttc	agatgtat	gcaaagaaga	cgaaggcaga	gtggtgtcaa	atctttgacg	240
gcacagatgc	ctgtgtgact	ccggttctga	cttttgagga	ggttgttcat	catgatcaca	300
acaangaacg	gggctcggtt	atcaccantg	aggagcagga	cgtgagcccc	cgccctgcac	360
ctctgctgtt	aaacacccca	gccatccctt	ctttcaaaaag	ggatccacta	cttctagagc	420
ggncgccacc	gcggtggagc	tccagctttt	gttcccttta	gtgaggggta	attgcgcgct	480
tggcgtaatc	atggtcatan	ctgtttcctg	tgtgaaattg	ttatccgctc	acaattccac	540
acaacatacg	anccggaagc	atnaaatttt	aaagcctggg	ggtngcctaa	tgantgaact	600
nactcacatt	aattggcttt	gcgctcactg	cccgttttcc	agtcgggaaa	acctgtcctt	660
gccagctgcc	nttaatgaat	cnggccacc	cccggggaaa	aggcngtttg	cttnttgggg	720
cgcncctccc	gcttttctgc	ttcctgaant	ccttcccccc	ggtctttcgg	cttgcggcna	780
acggtatcna	cct					793

&lt;210&gt; 34

&lt;211&gt; 756

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(756)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 34

gccgcgaccg	gcatgtacga	gcaactcaag	ggcgagtggg	accgtaaaag	ccccaatctt	60
ancaagtgcg	gggaanagct	gggtcgactc	aagctagttc	ttctggagct	caacttcttg	120

ccaaccacag	ggaccaagct	gaccaaacag	cagctaattc	tggcccgtga	catactggag	180
atcggggccc	aatggagcat	cctacgcaan	gacatcccct	ccttcgagcg	ctacatggcc	240
cagctcaaat	gctactactt	tgattacaan	gagcagctcc	ccgagtcagc	ctatatgcac	300
cagctcttgg	gcctcaacct	cctcttcctg	ctgtcccaga	accgggtggc	tgantnccac	360
acgganttgg	ancggctgcc	tgcccaanga	catacanacc	aatgtctaca	tcnaccacca	420
gtgtcctgga	gcaatactga	tgganggcag	ctaccncaaa	gtnttcctgg	ccnagggtaa	480
catccccgcg	cgagagctac	accttcttca	ttgacatcct	gctcgacact	atcagggatg	540
aaaatcgcn	ggttgctcca	gaaaggctnc	aanaanatcc	ttttcnctga	aggcccccg	600
atnncntagt	nctagaatcg	gccccccatc	gcgggtgganc	ctccaacctt	tcgttnccct	660
ttactgaggg	ttnattgccg	cccttggcgt	tatcatggtc	acnccngttn	cctgtgttga	720
aattnttaac	cccccaacaat	tccacgccna	cattng			756

&lt;210&gt; 35

&lt;211&gt; 834

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(834)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 35

ggggatctct	anactnacct	gnatgcatgg	ttgtcggtgt	ggtcgctgtc	gatgaanatg	60
aacaggatct	tgcccttgaa	gctctcggt	gctgtnttta	agttgctcag	tctgccgtca	120
tagtcagaca	cnctcttggg	caaaaaacan	caggatntga	gtcttgattt	cacctccaat	180
aatcttcngg	gctgtctgct	cggtgaactc	gatgacnang	ggcagctggt	tgtgtntgat	240
aaantccanc	angttctcct	tggtgacctc	cccttcaaag	ttgttccggc	cttcatcaaa	300
cttctnnaan	angannancc	canctttgtc	gagctggnat	ttgganaaca	cgtcactgtt	360
ggaaaactgat	cccaaattgt	atgtcatcca	tcgctctgc	tgcttgcaaa	aaacttgctt	420
ggcncaaate	cgactcccn	tccttgaaag	aagccnatca	cacccccctc	cctggactcc	480
nncaangact	ctnccgctnc	ccntccnng	cagggttggg	ggcannccgg	gccntgcgc	540
ttcttcagcc	agttcacnat	nttcacagc	ccctctgcc	gctgtntat	tccttggggg	600
ggaanccgtc	tctcccttcc	tgaannaact	ttgaccgtng	gaatagccgc	gcntcnccnt	660
acntnctggg	ccgggttcaa	antccctccn	ttgncnntcn	cctcggggcca	ttctggattt	720
nccnaacttt	ttccttcccc	cncnccnccg	ngtttggntt	tttcatnggg	ccccaaactc	780
gctnttggcc	antcccttgg	gggcntntan	cncnccntnt	ggtcccctng	ggcc	834

&lt;210&gt; 36

&lt;211&gt; 814

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(814)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 36

cggnccgttt	ccngccgcgc	cccgtttcca	tgacnaaggc	tccttccang	ttaaatacnn	60
cctagnaaac	attaatgggt	tgtctacta	atacatcata	cnaaccagta	agcctgccca	120
naacgccaac	tcaggccatt	cctaccaaag	gaagaaaggc	tggtctctcc	acccccgtga	180
ggaaaggcct	gccttgtaag	acaccacaat	ncggctgaat	ctnaagtctt	gtgttttact	240
aatggaaaaa	aaaaataaac	aanagggttt	gttctcatgg	ctgcccaccg	cagcctggca	300
ctaaaacanc	ccagcgctca	cttctgcttg	ganaaatatt	ctttgctctt	ttggacatca	360

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ggcttgatgg tatcactgcc acntttccac ccagctgggc ncccttcccc catntttgtc      420
antganctgg aaggcctgaa ncttagtctc caaaagtctc ngcccacaag accggccacc      480
aggggagangtc ntttncagtg gatctgccaa anantaccen tatcatcnnt gaataaaaaag      540
gccccgaac ganatgcttc cancanctt taagacccat aatcctngaa ccatggtgcc      600
cttcgggtct gatccnaaag gaatgttcct gggteccant ccttcctttg ttncctacgt      660
tgtnttgac cntgctngn atnaccnaan tganatcccc ngaagcacc tccccctggc      720
atttganttt cntaaattct ctgccctacn nctgaaagca cnattccctn ggcncnnaan      780
ggngaactca agaaggtctn ngaaaaacca cncn                                     814

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<210> 37
<211> 760
<212> DNA
<213> Homo sapien

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```

<220>
<221> misc_feature
<222> (1)...(760)
<223> n = A,T,C or G

```

```

<400> 37
gcattgctgct cttcctcaaa gttgttcttg ttgccataac aaccaccata ggtaaagcgg      60
gcgcagtgtt cgctgaaggg gttgtagtac cagcgcgagg tgcctctcct gcagagtcct      120
gtgtctggca ggtccacgca atgccctttg tctactggga aatggatgcg ctggagctcg      180
tcnaanccac tcgtgtattt ttcacangca gcctcctcgg aagcctccgg gcagttgggg      240
gtgtcgtcac actccactaa actgtcgatn cancagccca ttgctgcagc ggaactgggt      300
gggctgacag gtgccagaac aacttgatn ggcctttcca tggaagggcc tgggggaaat      360
cncctnancc caaactgcct ctcaaaggcc accttgaca ccccgacagg ctagaaatgc      420
actctctctc ccaaaggtag ttgttcttgt tgcccaagca ncctccanca aacccaaanc      480
ttgcaaaatc tgctccgtgg gggtcattnn taccanggtt ggggaaanaa acccggcngn      540
gancncctt gtttgaatgc naaggnaata atcctcctgt cttgcttggg tggaanagca      600
caattgaact gttaacnttg ggccgngttc cncctngggg gtctgaaact aatcacgcgc      660
actggaaaaa ggtangtgcc ttccttgaat tcccaaant cccctngntt tgggtntttt      720
ctcctctncc ctaaaaatcg tnttcccccc cntanggcg                                     760

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```

<210> 38
<211> 724
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(724)
<223> n = A,T,C or G

```

```

<400> 38
tttttttttt tttttttttt tttttttttt tttttaaaaa cccctccat tgaatgaaaa      60
cttcnnaaat tgtccaaccc cctcnccaa atnnccattt ccgggggggg gttccaaacc      120
caaattaatt ttgganttta aattaaatnt tnatnngggg aanaanccaa atgtnaagaa      180
aatttaaccc attatnaact taaatnccn gaaaccntg gnttccaaaa atttttaacc      240
cttaaatccc tccgaaattg ntaanggaaa accaaattcn cctaaggctn tttgaagggt      300
ngatttaaac ccccttnant tnttttnacc cnnngctnaa ntatttngnt tccgggtgtt      360
tcctnttaan cntnggtaac tcccgntaat gaannnccct aanccaatta aaccgaattt      420
tttttgaatt ggaaattccn ngggaattna ccgggggttt tccnttttgg gggccatncc      480
ccncttttcg ggggtttggg ntaggttgaa ttttttnang ncccaaaaaa ncccccaana      540
aaaaaactcc caagnnttaa ttngaatttc ccccttccca ggccttttgg gaaaggnngg      600

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tttntggggg	ccngggantt	cnttccccn	ttncncccc	cccccnnggt	aaanggttat	660
ngnntttggt	ttttgggccc	cttnanggac	cttccggatn	gaaattaaat	ccccgggncg	720
gccg						724

<210> 39  
 <211> 751  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(751)  
 <223> n = A,T,C or G

<400> 39						
tttttttttt	tttttctttg	ctcacattta	atttttat	tgattttttt	taatgctgca	60
caacacaata	tttatttcat	ttgtttcttt	tatttcattt	tatttgtttg	ctgctgctgt	120
tttatttatt	tttactgaaa	gtgagaggga	acttttggtg	ccttttttcc	tttttctgta	180
ggccgcctta	agctttctaa	atttggaaca	tctaagcaag	ctgaanggaa	aaggggggtt	240
cgcaaaatca	ctcgggggaa	nggaaagggt	gctttgttaa	tcatgcccta	tggtgggtga	300
ttaactgctt	gtacaattac	ntttcacttt	taattaattg	tgctnaangc	tttaattana	360
cttggggggt	ccctccccc	accaaccccn	ctgacaaaaa	gtgccngccc	tcaaattnatg	420
tcccggcntt	cnttgaaaca	cacngcngaa	ngttctcatt	ntccccncnc	caggtnaaaa	480
tgaagggtta	ccatntttta	cncacacctc	acntggcnnn	gcctgaatcc	tcnaaaancn	540
ccctcaancn	aattnctnng	ccccggtcnc	gcntnngtc	cnccegggct	ccgggaantn	600
cacccccnga	anncnntnnc	naacnaaatt	ccgaaaatat	tcccnntcnc	tcaattcccc	660
cnnagactnt	cctcnncnan	cncaattttc	ttttnttcac	gaacncgnnc	cnnaaaatgn	720
nnnnncctc	cncnngtcn	naatcnccan	c			751

<210> 40  
 <211> 753  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(753)  
 <223> n = A,T,C or G

<400> 40						
gtggtatttt	ctgtaagatc	aggtgttcct	ccctcgtagg	tttagaggaa	acaccctcat	60
agatgaaaac	ccccccgaga	cagcagcact	gcaactgcca	agcagccggg	gtaggagggg	120
cgccctatgc	acagctgggc	ccttgagaca	gcagggtctc	gatgtcaggc	tcgatgtcaa	180
tggtctggaa	gcggcggtg	tacctgcgt	ggggcacacc	gtcaggggcc	accaggaact	240
tctcaaagtt	ccaggcaacn	tcgttgcgac	acaccggaga	ccagggtgatn	agcttgggggt	300
cggtcataan	cgcggtggcg	tcgtcgctgg	gagctggcag	ggcctcccgc	aggaaggcna	360
ataaaagggtg	cgcccccgca	ccgttcantc	cgcacttctc	naanaccatg	angttgggct	420
cnaaccacc	accannccgg	acttccttga	nggaattccc	aaatctcttc	gntcttgggc	480
ttctnctgat	gccctantctg	gttgcccnng	atgccaanca	nccccaancc	ccggggtcct	540
aaancccn	cctcctcntt	tcactctgggt	ttntntcccc	ggaccttggt	tcctctcaag	600
ggancccata	tcctnaccan	tactcacctt	nccccccnt	gnnaccanc	cttctanngn	660
ttccncccc	ncctctggcc	cntcaaan	gcttnacna	cctgggtctg	ccttcccccc	720
tnccctatct	gnaccccn	tttgtctcan	tnt			753

<210> 41

<211> 341  
 <212> DNA  
 <213> Homo sapien

<400> 41  
 actatatcca tcacaacaga catgcttcat cccatagact tcttgacata gcttcaaagt 60  
 agtgaaccca tccttgattt atatacatat atgttctcag tattttggga gcctttccac 120  
 ttctttaaac cttgttcatt atgaacactg aaaataggaa tttgtgaaga gttaaaaagt 180  
 tatagcttgt ttacgtagta agtttttgaa gtctacattc aatccagaca cttagttgag 240  
 tggtaaaactg tgatttttaa aaaatatcat ttgagaatat tctttcagag gtattttcat 300  
 ttttactttt tgattaattg tgttttatat attagggtag t 341

<210> 42  
 <211> 101  
 <212> DNA  
 <213> Homo sapien

<400> 42  
 acttactgaa tttagttctg tgctcttcct tatttagtgt tgtatcataa atactttgat 60  
 gtttcaaaca ttctaaataa ataattttca gtggcttcat a 101

<210> 43  
 <211> 305  
 <212> DNA  
 <213> Homo sapien

<400> 43  
 acatctttgt tacagtctaa gatgtgttct taaatcacca ttccttctctg gtcctcaccc 60  
 tccaggggtgg tctcacactg taattagagc tattgaggag tctttacagc aaattaagat 120  
 tcagatgcct tgctaagtct agagttctag agttatgttt cagaaaagtct aagaaaccca 180  
 cctcttgaga ggtcagtaaa gaggacttaa tatttcatat ctacaaaatg accacaggat 240  
 tggatacaga acgagagtta tcttgataa ctacagagctg agtacctgcc cgggggcccgc 300  
 tcgaa 305

<210> 44  
 <211> 852  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)... (852)  
 <223> n = A,T,C or G

<400> 44  
 acataaatat cagagaaaag tagtctttga aatattttacg tccaggagtt ctttgtttct 60  
 gattatttgg tgtgtgtttt gggttgtgtc caaagtattg gcagcttcag ttttcatttt 120  
 ctctccatcc tcgggcattc ttcccaaatt tatataccag tcttcgtcca tccacacgct 180  
 ccagaatttc tctttttag tagtatctca tagctcggct gagcttttca taggtcatgc 240  
 tgctgttgtt cttcttttta ccccatagct gagccactgc ctctgatttc aagaacctga 300  
 agacgcctc agatcgggtc tcccatttta ttaatcctgg gttcttgtct tgggtcaaga 360  
 ggatgtcgcg gatgaattcc cataagttag tccctctcgg gttgtgtctt tgggtgtggc 420  
 acttggcagg ggggtcttgc tcctttttca tatcagggtga ctctgcaaca ggaagggtgac 480  
 tggtggttgt catggagatc tgagcccggc agaaagtgtt gctgtccaac aaatctactg 540  
 tgctaccata gttggtgtca tataaatagt tctngtcttt ccagggtgttc atgatggaag 600

gctcagtttg	ttcagtccttg	acaatgacat	tgtgtgtgga	ctggaacagg	tcactactgc	660
actggccgtt	ccacttcaga	tgctgcaagt	tgctgtagag	gagntgcccc	gccgtccctg	720
ccgcccgggt	gaactcctgc	aaactcatgc	tgcaaagggt	ctcgccgttg	atgtcgaact	780
cntggaaagg	gatacaattg	gcatccagct	ggttggtgtc	caggaggtga	tggagccact	840
cccacacctg	gt					852

<210> 45  
 <211> 234  
 <212> DNA  
 <213> Homo sapien

<400> 45						
acaacagacc	cttgctcgct	aacgacctca	tgctcatcaa	gttggacgaa	tccgtgtccg	60
agtctgacac	catccggagc	atcagcattg	cttcgcagtg	ccctaccgcg	gggaactctt	120
gcctcgtttc	tggctggggg	ctgctggcga	acggcagaat	gcctaccgtg	ctgcagtgcg	180
tgaacgtgtc	ggtggtgtct	gaggaggtct	gcagtaagct	ctatgacctg	ctgt	234

<210> 46  
 <211> 590  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (590)  
 <223> n = A,T,C or G

<400> 46						
actttttatt	taaatgttta	taaggcagat	ctatgagaat	gatagaaaac	atggtgtgta	60
atttgatagc	aatttttttg	agattacaga	gttttagtaa	ttaccaatta	cacagttaaa	120
aagaagataa	tatatccaa	gcanatacaa	aatatcta	gaaagatcaa	ggcaggaaaa	180
tgantataac	taattgacaa	tggaaaatca	attttaatgt	gaattgcaca	ttatccttta	240
aaagctttca	aaanaaanaa	ttattgcagt	ctanttaatt	caaacagtgt	taaatgggtat	300
caggataaan	aactgaaggg	canaaagaat	taattttcac	ttcatgtaac	ncacccanat	360
ttacaatggc	ttaaatgcan	ggaaaaagca	gtggaagtag	ggaagtantc	aaggtctttc	420
tggctctctaa	tctgccttac	tctttgggtg	tggctttgat	cctctggaga	cagctgccag	480
ggctcctgtt	atatccacaa	tcccagcagc	aagatgaagg	gatgaaaaag	gacacatgct	540
gccttccttt	gaggagactt	catctcactg	gccaacactc	agtcacatgt		590

<210> 47  
 <211> 774  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (774)  
 <223> n = A,T,C or G

<400> 47						
acaagggggc	ataatgaagg	agtgggggana	gatttttaaag	aaggaaaaaa	aacgaggccc	60
tgaacagaat	tttctgnac	aacgggggctt	caaaataatt	ttcttgggga	ggttcaagac	120
gcttctactgc	ttgaaactta	aatggatgtg	ggacanaatt	ttctgtaatg	accctgaggg	180
cattacagac	gggactctgg	gaggaaggat	aaacagaaaag	gggacaaaag	ctaattcccaa	240
aacatcaaag	aaaggaagggt	ggcgtcatac	ctcccagcct	acacagttct	ccagggtctct	300

cctcatccct	ggaggacgac	agtggaggaa	caactgacca	tgtccccagg	ctcctgtgtg	360
ctggctcctg	gtcttcagcc	cccagctctg	gaagcccacc	ctctgctgat	cctgcgtggc	420
ccacactcct	tgaacacaca	tccccagggt	atattcctgg	acatggctga	acctcctatt	480
cctacttccg	agatgccttg	ctccctgcag	cctgtcaaaa	tcccactcac	cctccaaacc	540
acggcatggg	aagcctttct	gacttgccctg	attactccag	catcttggaa	caatccctga	600
ttccccactc	cttagaggca	agataggggtg	gttaagagta	gggctggacc	acttggagcc	660
aggctgctgg	cttcaaattn	tggctcattt	acgagctatg	ggaccttggg	caagtnatct	720
tcacttctat	gggcntcatt	ttgttctacc	tgcaaaatgg	gggataataa	tagt	774

&lt;210&gt; 48

&lt;211&gt; 124

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(124)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 48

canaaaattga	aattttataa	aaaggcattt	ttctcttata	tccataaaat	gatataattt	60
ttgcaantat	anaaatgtgt	cataaattat	aatgttcctt	aattacagct	caacgcaact	120
tggt						124

&lt;210&gt; 49

&lt;211&gt; 147

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(147)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 49

gccgatgcta	ctattttatt	gcaggagggtg	gggggtgtttt	tattattctc	tcaacagctt	60
tgtggctaca	ggtgggtgtct	gactgcatna	aaaanttttt	tacgggtgat	tgcaaaaatt	120
ttagggcacc	catatcccaa	gcantgt				147

&lt;210&gt; 50

&lt;211&gt; 107

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 50

acattaaatt	aataaaagga	ctgttgggggt	tctgctaaaa	cacatggctt	gatatattgc	60
atgggttgag	gttaggagga	gttaggcata	tgttttggga	gaggggt		107

&lt;210&gt; 51

&lt;211&gt; 204

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 51

gtcctaggaa	gtctagggga	cacacgactc	tggggtcacg	gggccgacac	acttgcacgg	60
------------	------------	------------	------------	------------	------------	----



cggggaaggaa aggcagagaa gtgacaccgt caggggggaaa tgacagaaag gaaaatcaag	120
gccttgcaag gtcagaaagg ggactcaggg cttccaccac agccctgccc cacttggcca	180
cctccctttt gggaccagca atgt	204

<210> 52  
 <211> 491  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(491)  
 <223> n = A,T,C or G

<400> 52	
acaaagataa catttatctt ataacaaaaa ttgatagtt ttaaaggtta gtattgtgta	60
gggtattttt caaaagacta aagagataac tcaggtaaaa agttagaaat gtataaaaca	120
ccatcagaca gggtttttaa aaacaacata ttacaaaatt agacaatcat ccttaaaaaa	180
aaaacttctt gtatcaattt cttttgttca aaatgactga cttaantatt tttaaattatt	240
tcanaaacac ttcttcaaaa attttcaana tggtagcttt canatgtnc ctcagtccca	300
atgttgctca gataaataaa tctcgtgaga acttaccacc caccacaagc tttctggggc	360
atgcaacagt gtcttttctt tnccttttct tttttttttt ttacaggcac agaaactcat	420
caattttatt tggataacaa agggctctca aattatattg aaaaataaat ccaagttaat	480
atcactcttg t	491

<210> 53  
 <211> 484  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(484)  
 <223> n = A,T,C or G

<400> 53	
acataattta gcagggctaa ttaccataag atgctattta ttaanaggtn tatgatctga	60
gtattaacag ttgctgaagt ttgggtattt tatgcagcat tttctttttg ctttgataac	120
actacagaac ccttaaggac actgaaaatt agtaagtaaa gttcagaaac attagctgct	180
caatcaaadc tctacataac actatagtaa ttaaaacgtt aaaaaaaagt gttgaaatct	240
gcactagtat anaccgctcc tgtcaggata anactgctt ggaacagaaa gggaaaaanc	300
agctttgant ttctttgtgc tgatangagg aaaggctgaa ttaccttggt gcctctccct	360
aatgattggc aggtcnggta aatnccaaaa catattccaa ctcaacactt cttttccncg	420
tancttgant ctgtgtattc caggancagg cggatggaat gggccagccc ncggatgttc	480
cant	484

<210> 54  
 <211> 151  
 <212> DNA  
 <213> Homo sapien

<400> 54	
actaaacctc gtgcttgtga actccataca gaaaacgggtg ccattccctga acacggctgg	60
ccactgggta tactgctgac aaccgcaaca acaaaaacac aaatccttgg cactggctag	120
tctatgtcct ctcaagtgcc tttttgttg t	151

<210> 55  
 <211> 91  
 <212> DNA  
 <213> Homo sapien

<400> 55  
 acctggcttg tctccgggtg gttccccggcg cccccacgg tccccagaac ggacactttc 60  
 gccctccagt ggatactcga gccaaagtgg t 91

<210> 56  
 <211> 133  
 <212> DNA  
 <213> Homo sapien

<400> 56  
 ggcggatgtg cgttggttat atacaaatat gtcattttat gtaagggact tgagtatact 60  
 tggatttttg gtatctgtgg gttgggggga cgggccagga accaatacc catggatacc 120  
 aagggacaac tgt 133

<210> 57  
 <211> 147  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(147)  
 <223> n = A,T,C or G

<400> 57  
 actctggaga acctgagccg ctgctccgcc tctgggatga ggtgatgcan gcngtggcgc 60  
 gactgggagc tgagcccttc cctttgcgcc tgccctcagag gattgttgcc gacntgcana 120  
 tctcantggg ctggatncat gcagggt 147

<210> 58  
 <211> 198  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(198)  
 <223> n = A,T,C or G

<400> 58  
 acagggatat aggtttnaag ttattgtnat tgtaaaatac attgaatttt ctgtatactc 60  
 tgattacata catttatcct ttaaaaaaga tgtaaatcct aatttttatg ccacttatta 120  
 atttaccat gagttacctt gtaaatgaga agtcatagata gcactgaatt ttaactagtt 180  
 ttgacttcta agtttggt 198

<210> 59  
 <211> 330  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 59

acaacaaatg ggttgtgagg aagtcttatc agcaaaactg gtgatggcta ctgaaaagat	60
ccattgaaaa ttatcattaa tgatttttaa tgacaagtta tcaaaaactc actcaatttt	120
cacctgtgct agcttgctaa aatgggagtt aactctagag caaatatagt atcttctgaa	180
tacagtcaat aaatgacaaa gccagggcct acaggtgggt tccagacttt ccagacccag	240
cagaaggaat ctattttatc acatggatct ccgtctgtgc tcaaaatacc taatgatatt	300
tttcgtcttt attggacttc tttgaagagt	330

&lt;210&gt; 60

&lt;211&gt; 175

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 60

accgtgggtg ccttctacat tcctgacggc tccttcacca acatctgggt ctacttcggc	60
gtcgtgggtc ccttctctt catcctcatc cagctgggtc tgctcatcga ctttgccgac	120
tcctggaacc agcgggtggc gggcaaggcc gaggagtgcg attcccgtgc ctggt	175

&lt;210&gt; 61

&lt;211&gt; 154

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 61

acccacttt tcctcctgtg agcagtctgg acttctcact gctacatgat gagggtgagt	60
ggttgttgct cttcaacagt atcctccctt ttccggatct gctgagccgg acagcagtgc	120
tggactgcac agccccggg ctccacattg ctgt	154

&lt;210&gt; 62

&lt;211&gt; 30

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 62

cgctcgagcc ctatagttag tcgtattaga	30
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&lt;210&gt; 63

&lt;211&gt; 89

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 63

acaagtcatt tcagaccct ttgctcttca aaactgacca tcttttatat ttaatgcttc	60
ctgtatgaat aaaaatggtt atgtcaagt	89

&lt;210&gt; 64

&lt;211&gt; 97

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 64

accggagtaa ctgagtcggg acgctgaatc tgaatccacc aataaataaa ggttctgcag	60
aatcagtgc tccaggattg gtccttgat ctgggg	97

<210> 65  
 <211> 377  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(377)  
 <223> n = A,T,C or G

<400> 65  
 acaacaanaa ntcccttctt taggccactg atggaaacct ggaacccccct ttgatggca 60  
 gcatggcgct ctaggccttg acacagcggc tgggggttgg gctntcccaa accgcacacc 120  
 ccaaccctgg tctaccaca nttctggcta tgggctgtct ctgccactga acatcagggg 180  
 tcggtcataa natgaaatcc caanggggac agaggtcagt agaggaagct caatgagaaa 240  
 ggtgctgttt gctcagccag aaaacagctg cctggcattc gccgctgaac tatgaaccgg 300  
 tgggggtgaa ctaccccccag gaggaatcat gctggggcga tgcaanggtg ccaacaggag 360  
 gggcgggagg agcatgt 377

<210> 66  
 <211> 305  
 <212> DNA  
 <213> Homo sapien

<400> 66  
 acgcctttcc ctcagaattc agggaagaga ctgtcgccctg ccttcctccg ttgttgcgctg 60  
 agaacccttg tgccccttcc caccatatcc accctcgctc catctttgaa ctcaaacacg 120  
 aggaactaac tgcaccctgg tcctctcccc agtccccagt tcacctcca tccctcacct 180  
 tctccactc taagggatat caacactgcc cagcacaggg gccctgaatt tatgtggttt 240  
 ttatatattt ttttaataaga tgcactttat gtcatttttt aataaagtct gaagaattac 300  
 tgttt 305

<210> 67  
 <211> 385  
 <212> DNA  
 <213> Homo sapien

<400> 67  
 actacacaca ctccacttgc ccttgtgaga cactttgtcc cagcacttta ggaatgctga 60  
 ggtcggacca gccacatctc atgtgcaaga ttgcccagca gacatcaggt ctgagagttc 120  
 cccttttaaa aaaggggact tgcttaaaaa agaagtctag ccacgattgt gtagagcagc 180  
 tgtgctgtgc tggagattca cttttgagag agttctcctc tgagacctga tctttagagg 240  
 ctgggcagtc ttgcacatga gatggggctg gtctgatctc agcactcctt agtctgcttg 300  
 cctctcccag ggccccagcc tggccacacc tgcttacagg gcactctcag atgccatac 360  
 catagtttct gtgctagtgg accgt 385

<210> 68  
 <211> 73  
 <212> DNA  
 <213> Homo sapien

<400> 68  
 acttaaccag atatattttt accccagatg gggatattct ttgtaaaaaa tgaaaataaa 60  
 gtttttttaa tgg 73

<210> 69  
 <211> 536  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(536)  
 <223> n = A,T,C or G

<400> 69  
 actagtcag tgtggtggaa ttccattgtg ttgggggctc tcaccctcct ctctgcagc 60  
 tccagctttg tgctctgcct ctgaggagac catggcccag catctgagta cctgctgct 120  
 cctgctggcc accctagctg tggccctggc ctggagcccc aaggaggagg ataggataat 180  
 cccgggtggc atctataacg cagacctcaa tgatgagtgg gtacagcgtg cccttcactt 240  
 cgccatcagc gagtataaca aggccaccaa agatgactac tacagacgtc cgctgcgggt 300  
 actaagagcc aggcaacaga ccgttggggg ggtgaattac ttcttcgacg tagaggtggg 360  
 ccgaaccata tgtaccaagt cccagcccaa cttggacacc tgtgccttcc atgaacagcc 420  
 agaactgcag aagaaacagt tgtgctcttt cgagatctac gaagtccct ggggagaaca 480  
 gaangtccct gggtgaaatc caggtgtcaa gaaatcctan ggatctgttg ccaggc 536

<210> 70  
 <211> 477  
 <212> DNA  
 <213> Homo sapien

<400> 70  
 atgaccccta acagggggccc tctcagccct cctaattgacc tccggcctag ccatgtgatt 60  
 tcacttccac tccataacgc tctcataact aggcctacta accaaccacac taaccatata 120  
 ccaatgatgg cgcgatgtaa cagagaaaag cacataccaa ggccaccaca caccacctgt 180  
 ccaaaaaggc ctctgatacg ggataatcct atttattacc tcagaagttt ttttcttcgc 240  
 agggattttt ctgagccttt taccactcca gcctagcccc tccccccaa ctaggagggc 300  
 actggccccc aacaggcatc accccgctaa atcccctaga agtcccactc ctaaacacat 360  
 ccgtattact cgcatacagga gtatcaatca cctgagctca ccatagtcta atagaaaaca 420  
 accgaaacca aattattcaa agcactgctt attacaattt tactgggtct ctatttt 477

<210> 71  
 <211> 533  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(533)  
 <223> n = A,T,C or G

<400> 71  
 agagctatag gtacagtgtg atctcagctt tgcaaacaca ttttctacat agatagtact 60  
 aggtattaat agatatgtaa agaaagaaat cacaccatta ataatggtaa gattgggtta 120  
 tgtgatttta gtggattttt tggcaccctt atatatgttt tccaaacttt cagcagtgat 180  
 attatttcca taacttaaaa agtgagtttg aaaaagaaaa tctccagcaa gcatctcatt 240  
 taaataaagg tttgtcatct ttaaaaatac agcaatatgt gactttttta aaaagctgtc 300  
 aaataggtgt gaccctacta ataattatta gaaatacatt taaaaacatc gagtacctca 360  
 agtcagtttg ccttgaaaaa tatcaaatat aactcttaga gaaatgtaca taaaagaatg 420  
 cttcgttaatt ttggagtang aggttccctc ctcaattttg tattttttaa agttacatgg 480  
 taaaaaaaaa aattcacaaac agtatataag gctgtaaaat gaagaattct gcc 533

<210> 72  
 <211> 511  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(511)  
 <223> n = A,T,C or G

<400> 72  
 tattacggaa aaacacacca cataattcaa ctancaaaga anactgcttc agggcgtgta 60  
 aaatgaaagg cttccaggca gttatctgat taaagaacac taaaagaggg acaaggctaa 120  
 aagccgcagg atgtctacac tatancaggc gctatttggg ttggctggag gagctgtgga 180  
 aaacatggan agattgggtgc tgganatcgc cgtggctatt cctcattgtt attacanagt 240  
 gaggttctct gtgtgcccac tggtttgaaa accgttctnc aataatgata gaatagtaca 300  
 cacatgagaa ctgaaatggc ccaaaccag aaagaaagcc caactagatc ctcagaanac 360  
 gcttctaggg acaataaccg atgaagaaaa gatggcctcc ttgtgcccc gtctgttatg 420  
 atttctctcc attgcagcna naaacccgtt cttctaagca aacncagggtg atgatggcna 480  
 aaatacaccc cctcttgaag naccnggagg a 511

<210> 73  
 <211> 499  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(499)  
 <223> n = A,T,C or G

<400> 73  
 cagtgccagc actggtgccg gtaccagtag caataacagt gccagtgccg gtgccagcac 60  
 cagtgggtggc ttcagtgtct gtgccagcct gaccgccact ctcacatttg ggctcttcgc 120  
 tggccttggg ggagctgggt ccagcaccag tggcagctct ggtgcctgtg gtttctccta 180  
 caagttagat tttagatatt gttaatcctg ccagtctttc tcttcaagcc aggggtgcac 240  
 ctcagaaacc tactcaacac agcactctag gcagccacta tcaatcaatt gaagttgaca 300  
 ctctgcatta aatctatttg ccatttctga aaaaaaaaaa aaaaaaaggc cggccgctcg 360  
 antctagagg gcccggttaa acccgctgat cagcctcgac tgtgccttct anttgccagc 420  
 catctgttgt ttgccccctc cccgntgcct tccttgacct tggaaagtgc cactcccact 480  
 gtcccttctc aantaaaat 499

<210> 74  
 <211> 537  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(537)  
 <223> n = A,T,C or G

<400> 74  
 tttcatagga gaacacactg aggagatact tgaagaattt ggattcagcc gcgaagagat 60

ttatcagctt	aactcagata	aaatcattga	aagtaataag	gtaaaagcta	gtctctaact	120
tccaggccca	cggctcaagt	gaatttgaat	actgcattta	cagtgtagag	taacacataa	180
cattgtatgc	atggaaacat	ggaggaacag	tattacagtg	tcctaccact	ctaatcaaga	240
aaagaattac	agactctgat	tctacagtga	tgattgaatt	ctaaaaatgg	taatcattag	300
ggcttttgat	ttataanact	ttgggtactt	atactaaatt	atggtagtta	tactgccttc	360
cagtttgctt	gatataattg	ttgatattaa	gattcttgac	ttatattttg	aatgggttct	420
actgaaaaan	gaatgatata	ttcttgaaga	catcgatata	catttattta	cactcttgat	480
tctacaatgt	agaaaatgaa	ggaaatgccc	caaattgtat	ggtgataaaa	gtccccgt	537

&lt;210&gt; 75

&lt;211&gt; 467

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(467)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 75

caaanacaat	tgttcaaaaag	atgcaaata	tacactactg	ctgcagctca	caaacacctc	60
tgcataattac	acgtacctcc	tcctgctcct	caagtagtgt	ggctctatttt	gccatcatca	120
cctgctgtct	gcttagaaga	acggctttct	gctgcaangg	agagaaatca	taacagacgg	180
tggcacaagg	aggccatctt	ttcctcatcg	gttattgtcc	ctagaagcgt	cttctgagga	240
tctagttggg	ctttctttct	gggtttgggc	catttcantt	ctcatgtgtg	tactattcta	300
tcattattgt	ataacggttt	tcaaaccngt	gggcacncag	agaacctcac	tctgtaataa	360
caatgaggaa	tagccacggt	gatctccagc	accaaattctc	tccatgttnt	tccagagctc	420
ctccagccaa	cccaaatagc	cgctgctatn	gtgtagaaca	tccttgn		467

&lt;210&gt; 76

&lt;211&gt; 400

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(400)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 76

aagctgacag	cattcggggc	gagatgtctc	gctccgtggc	cttagctgtg	ctcgcgtac	60
tctctctttc	tggcctggag	gctatccagc	gtactccaaa	gattcaggtt	tactcacgtc	120
atccagcaga	gaatggaaa	tcaaatttcc	tgaattgcta	tgtgtctggg	tttcatccat	180
ccgacattga	agttgactta	ctgaagaatg	gagagagaat	tgaaaaagtg	gagcattcag	240
acttgtcttt	cagcaaggac	tggcttttct	atctcttgta	ctacactgaa	ttcaccccca	300
ctgaaaaaga	tgagtatgcc	tgccgtgtga	accatgtgac	tttgtcacag	cccaagatng	360
ttnagtggga	tcganacatg	taagcagcan	catgggaggt			400

&lt;210&gt; 77

&lt;211&gt; 248

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 77

ctggagtgcc	ttggtgtttc	aagccccctgc	aggaagcaga	atgcaccttc	tgaggcacct	60
------------	------------	-------------	------------	------------	------------	----

```

ccagctgccc cggcggggga tgcgaggctc ggagcaccct tgcccggctg tgattgctgc      120
caggcactgt tcattcagc ttttctgtcc ctttgctccc ggcaagcgct tctgctgaaa      180
gttcatatct ggagcctgat gtcttaacga ataaaggctc catgctccac ccgaaaaaaa      240
aaaaaaaaa                                     248

```

```

<210> 78
<211> 201
<212> DNA
<213> Homo sapien

```

```

<400> 78
actagtcag tgtggtggaa ttccattgtg ttgggcccac cacaatggct acctttaaca      60
tcaccagac cccgccctgc ccgtgcccc cgtgctgct aacgacagta tgatgcttac      120
tctgctactc ggaaactatt tttatgtaat taatgtatgc tttcttggtt ataatgcct      180
gatttaaaaa aaaaaaaaaa a                                     201

```

```

<210> 79
<211> 552
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(552)
<223> n = A,T,C or G

```

```

<400> 79
tccttttgtt aggtttttga gacaacccta gacctaaact gtgtcacaga cttctgaatg      60
tttaggcagt gctagtaatt tcctcgtaat gattctgtta ttactttcct attctttart      120
cctctttcct ctgaagatta atgaagtga aaattgaggt ggataaatac aaaaaggtag      180
tgtgatagta taagtatcta agtgcagatg aaagtgtgtt atatatatcc attcaaaatt      240
atgcaagtta gtaattactc aggggttaact aaattacttt aatatgctgt tgaacctact      300
ctgttccttg gctagaaaaa attataaaca ggactttgtt agtttgggaa gccaaattga      360
taatattcta tgttctaaaa gttgggctat acataaanta tnaagaaata tggaatttta      420
ttcccaggaa tatgggggtt atttatgaat antaccggg anagaagttt tgantnaaac      480
cngttttggt taatacggtt atatgtcctn aatnaacaag gcntgactta tttccaaaaa      540
aaaaaaaaa aa                                     552

```

```

<210> 80
<211> 476
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(476)
<223> n = A,T,C or G

```

```

<400> 80
acagggattt gagatgctaa ggccccagag atcgtttgat ccaaccctct tattttcaga      60
ggggaaaatg gggcctagaa gttacagagc atctagctgg tgcgctggca cccctggcct      120
cacacagact cccgagtagc tgggactaca ggcacacagt cactgaagca ggccctgttt      180
gcaattcacg ttgccacctc caacttaaac attcttcata tgtgatgtcc ttagtcacta      240
agggttaaact ttcccaccca gaaaaggcaa cttagataaa atcttagagt actttcatac      300
tcttctaagt cctcttccag cctcactttg agtcctcctt ggggggttgat aggaantntc      360

```



tcttggtttt	ctcaataaaa	tctctatcca	tctcatgttt	aatttggtac	gcntaaaaat	420
gctgaaaaaa	ttaaaatgtt	ctggtttcnc	tttaaaaaaa	aaaaaaaaaa	aaaaaa	476

<210> 81  
 <211> 232  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(232)  
 <223> n = A,T,C or G

<400> 81						
tttttttttg	tatgcctcn	ctgtggngtt	attggtgctg	ccaccctgga	ggagcccagt	60
ttcttctgta	tctttctttt	ctgggggatc	ttcctggctc	tgccctcca	ttcccagcct	120
ctcatcccca	tcttgcactt	ttgctagggt	tggaggcgct	ttcctggtag	cccctcagag	180
actcagtcag	cggaataag	tcctagggtt	ggggggtgtg	gcaagccggc	ct	232

<210> 82  
 <211> 383  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(383)  
 <223> n = A,T,C or G

<400> 82						
aggcgggagc	agaagctaaa	gccaaagccc	aagaagagtg	gcagtgccag	cactggtgcc	60
agtaccagta	ccaataacat	gccagtgcc	gtgccagcac	cagtgggtggc	ttcagtgtctg	120
gtgccagcct	gaccgccact	ctcacatttg	ggctcttcgc	tggccttggg	ggagctggtg	180
ccagcaccag	tggcagctct	ggtgcctgtg	gtttctccta	caagtgagat	tttagatatt	240
gttaatcctg	ccagtctttc	tcttcaagcc	aggggtgcac	ctcagaaacc	tactcaacac	300
agcactctng	gcagccacta	tcaatcaatt	gaagttgaca	ctctgcatta	aatctatttg	360
ccatttcaaa	aaaaaaaaaa	aaa				383

<210> 83  
 <211> 494  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(494)  
 <223> n = A,T,C or G

<400> 83						
accgaattgg	gaccgctggc	ttataagcga	tcattgtcctc	cagtattacc	tcaacgagca	60
gggagatcga	gtctatacgc	tgaagaaatt	tgaccctgatg	ggacaacaga	cctgctcagc	120
ccatcctgtc	cggttctccc	cagatgacaa	atactctcga	caccgaatca	ccatcaagaa	180
acgcttcaag	gtgctcatga	cccagcaacc	gcgcctctgc	ctctgagggt	ccttaaactg	240
atgtcttttc	tgccacctgt	taccctcggg	agactccgta	accaaactct	tcggactgtg	300
agccctgatg	cctttttgcc	agccatactc	tttggcntcc	agtctctcgt	ggcgattgat	360

```
tatgcttgtg tgaggcaatc atggtggcat caccatnaa gggaacacat ttganttttt 420
tttcncatat tttaaattac naccagaata nttcagaata aatgaattga aaaactctta 480
aaaaaaaaaaaa aaaa 494
```

```
<210> 84
<211> 380
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(380)
<223> n = A,T,C or G
```

```
<400> 84
gctggtagcc tatggcgtgg ccacggangg gctcctgagg cacgggacag tgacttccca 60
agtatcctgc gccgcgtctt ctaccgtccc tacctgcaga tcttcgggca gattccccag 120
gaggacatgg acgtggccct catggagcac agcaactgct cgtcggagcc cggcttcttg 180
gcacaccctc ctggggccca ggccgggacac tgcgtctccc agtatgcaa ctggctggtg 240
gtgctgctcc tcgtcatctt cctgctcgtg gccaacatcc tgctggtcac ttgctcattg 300
ccatgttcag ttacacattc ggcaaagtac agggcaacag cnatctctac tgggaaggcc 360
agcgttnccg cctcatccgg 380
```

```
<210> 85
<211> 481
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(481)
<223> n = A,T,C or G
```

```
<400> 85
gagttagctc ctccacaacc ttgatgaggt cgtctgcagt ggctctcgc ttcataccgc 60
tnccatcgtc atactgtagg ttgcccacca cctcctgcat cttggggcgg ctaatatcca 120
ggaaactctc aatcaagtca ccgtcnatna aacctgtggc tggttctgtc ttccgctcgg 180
tgtgaaagga tctccagaag gagtgtcga tcttccccac acttttgatg actttattga 240
gtcgattctg catgtccagc aggaggttgt accagctctc tgacagtgag gtcaccagcc 300
ctatcatgcc nttgaacgtg ccgaagaaca ccgagccttg tgtggggggg gnagtctcac 360
ccagattctg cattaccaga nagccgtggc aaaaganatt gacaactcgc ccaggngaa 420
aaagaacacc tcctggaagt gctngccgct cctcgtcctt tgggtggngc gentnccttt 480
t 481
```

```
<210> 86
<211> 472
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(472)
<223> n = A,T,C or G
```

```
<400> 86
```

```

aacatcttcc tgtataatgc tgtgtaatat cgatccgatn ttgtctgctg agaattcatt      60
acttggaataa gcaacttnaa gcctggacac tgggtattaaa attcacaata tgcaaacatt      120
taaacagtgt gtcaatctgc tcccttactt tggcatcacc agtctgggaa taaggggatg      180
ccctattcac acctgttaaa agggcgctaa gcatttttga ttcaacatct ttttttttga      240
cacaagtccg aaaaaagcaa aagtaaacag ttnttaattt gtttagccaat tcacttttct      300
catgggacag agccatttga tttaaaaagc aaattgcata atattgagct ttggggagctg      360
atatntgagc ggaagantag ccttttctact tcaccagaca caactccttt catattggga      420
tgttnacnaa agttatgtct cttacagatg ggatgctttt gtggcaattc tg              472

```

&lt;210&gt; 87

&lt;211&gt; 413

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(413)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 87

```

agaaaccagt atctctnaaa acaacctctc ataccttggtg gacctaatTT tgtgtgcgtg      60
tgtgtgtgcg cgcataattat atagacaggc acatcttttt tacttttTga aaagcttatg      120
cctctttTgt atctatatct gtgaaagttt taatgatctg ccataatgtc ttggggacct      180
ttgtcttctg tgtaaagtgt actagagaaa acacctatnt tatgagtcaa tctagttngt      240
tttattcgac atgaaggaaa ttccagatn acaacactna caaactctcc cttgactagg      300
ggggacaaaag aaaagcanaa ctgaacatna gaaacaattn cctgggtgaga aattncataa      360
acagaaattg ggtngtatat tgaaanang catcattnaa acgttttttt ttt              413

```

&lt;210&gt; 88

&lt;211&gt; 448

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(448)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 88

```

cgcagcgggt cctctctatc tagctccagc ctctcgctg ccccaactccc cgcgtcccgc      60
gtcctagccn accatggccg ggccccctgcg cgccccgctg ctctgctgg ccacctggc      120
cgtggccctg gccgtgagcc ccgcggcccg ctccagctccc ggcaagccgc cgcgcctgg      180
gggaggccca tggaccccgc gtggaagaag aagggtgtgcg gcgtgcactg gactttgccg      240
tcggcnanta caacaaaccc gcaacnactt ttaccnagcn cgcgctgcag gttgtgccgc      300
cccaancaaa ttgttactng gggtaantaa ttcttggaag ttgaacctgg gccaaacnng      360
tttaccagaa ccnagccaat tngaacaatt nccccctccat aacagcccct tttaaaaagg      420
gaancantcc tgntcttttc caaatTTt              448

```

&lt;210&gt; 89

&lt;211&gt; 463

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(463)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 89

gaattttgtg cactggccac tgtgatggaa ccattgggcc aggatgcttt gagtttatca	60
gtagtgattc tgccaaagt ggtgttgtaa catgagtatg taaaatgtca aaaaattagc	120
agaggtctag gtctgcatat cagcagacag tttgtccgtg tattttgtag ccttgaagtt	180
ctcagtgaca agttntttct gatgcgaagt tctnattcca gtgttttagt cctttgcatc	240
tttnatgtn agacttgctt ctntnaaatt gcttttgtnt tctgcaggta ctatctgtgg	300
tttaacaaaa tagaannact tctctgcttn gaanatttga atatcttaca tctnaaaatn	360
aattctctcc ccatannaaa acccangccc ttggganaat ttgaaaaang gntccttcnn	420
aattcnana anttcagntn tcatacaaca naacngganc ccc	463

&lt;210&gt; 90

&lt;211&gt; 400

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(400)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 90

agggattgaa ggtctnttnt actgtcggac tgttcancca ccaactctac aagttgctgt	60
cttccactca ctgtctgtaa gcntnttaac ccagactgta tottcataaa tagaacaaat	120
tcttcaccag tcacatcttc taggaccttt ttggattcag ttagtataag ctcttccact	180
tcctttgtta agacttcac tcggtaaagtc ttaagttttg tagaaaggaa tttaattgct	240
cgttctctaa caatgtcctc tccttgaagt atttggtgta acaaccacc tnaagtcctt	300
ttgtgcatcc attttaaata tacttaatag ggcattggtn cactagggtta aattctgcaa	360
gagtcactctg tctgcaaaaag ttgcgttagt atatctygca	400

&lt;210&gt; 91

&lt;211&gt; 480

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(480)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 91

gagctcggat ccaataatct ttgtctgagg gcagcacaca tatncagtgc catggnaact	60
ggtctacccc acatgggagc agcatgccgt agntatataa ggtcattccc tgagtcagac	120
atgcctcttt gactaccgtg tgccagtgtt ggtgattctc acacacctcc nnccgctctt	180
tgtggaaaaa ctggcacttg nctggaacta gcaagacatc acttacaaat tcaccacga	240
gacacttgaa aggtgtaaca aagcgactct tgcattgctt tttgtccctc cggcaccagt	300
tgtcaatact aaccgcgtgg tttgcctcca tcacatttgt gatctgtagc tctggataga	360
tctcctgaca gtactgaaga acttcttctt ttgtttcaaa agcaactctt ggtgcctgtt	420
ngatcagggt cccatttccc agtccgaatg ttcacatggc atatnttact tcccacaaaa	480

&lt;210&gt; 92

&lt;211&gt; 477

&lt;212&gt; DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (477)

<223> n = A,T,C or G

<400> 92

atacagccca	natcccacca	cgaagatgcg	cttggtgact	gagaacctga	tgcggtcact	60
ggtcccgcgtg	tagccccagc	gactctccac	ctgctggaag	cggttgatgc	tgcactcctt	120
cccacgcagg	cagcagcggg	gccgggtcaat	gaactccact	cgtggccttg	ggttgacggg	180
taantgcagg	aagaggctga	ccacctcgcg	gtccaccagg	atgcccgact	gtgcgggacc	240
tgcagcgaaa	ctcctcgatg	gtcatgagcg	ggaagcgaat	gangcccagg	gccttgccca	300
gaaccttccg	cctgttctct	ggcgtcacct	gcagctgctg	ccgctnacac	tcggcctcgg	360
accagcggac	aaacggcggt	gaacagccgc	acctcacgga	tgcccantgt	gtcgcgctcc	420
aggaacggcn	ccagcgtgtc	caggtcaatg	tcggtgaanc	ctccgcgggt	aatggcg	477

<210> 93

<211> 377

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (377)

<223> n = A,T,C or G

<400> 93

gaacggctgg	accttgcttc	gcattgtgct	gctggcagga	ataccttggc	aagcagctcc	60
agtccgagca	gccccagacc	gctgccgccc	gaagctaagc	ctgcctctgg	ccttccccctc	120
cgcctcaatg	cagaaccant	agtgggagca	ctgtgtttag	agttaagagt	gaacactgtg	180
tgattttact	tgggaatttc	ctctgttata	tagcttttcc	caatgcta	ttccaaacaa	240
caacaacaaa	ataacatgtt	tgcctgttna	gttgataaaa	agtangtgat	tctgtatnta	300
aagaaaatat	tactgttaca	tatactgctt	gcaanttctg	tatttattgg	tnctctggaa	360
ataaatatat	tattaa					377

<210> 94

<211> 495

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (495)

<223> n = A,T,C or G

<400> 94

ccctttgagg	ggttagggtc	cagttcccag	tgggaagaaac	aggccaggag	aantgcgtgc	60
cgagctgang	cagatttccc	acagtgaccc	cagagccctg	ggctatagtc	tctgaccctt	120
ccaaggaaaag	accaccttct	ggggacatgg	gctggagggc	aggacctaga	ggcaccaagg	180
gaaggcccca	ttccggggct	gttccccgag	gaggaaggga	aggggctctg	tgtgcccccc	240
acgagggaana	ggccctgant	cctgggatca	nacaccctt	cacgtgtatc	cccacacaaa	300
tgcaagctca	ccaagggtccc	ctctcagtc	cttccctaca	ccctgaacgg	ncactggccc	360
acaccacccc	agancancca	cccgcctatg	gggaatgtnt	caaggaatcg	cngggcaacg	420
tggactctng	tcccnnaagg	gggcagaatc	tccaatagan	gganngaacc	cttgctnana	480

aaaaaaaaana aaaaaa

495

<210> 95  
 <211> 472  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(472)  
 <223> n = A,T,C or G

<400> 95  
 gggtacttgg tttcattgcc accacttagt ggatgtcatt tagaaccatt ttgtctgctc 60  
 cctctggaag ccttgccgag agcggacttt gtaattgttg gagaataact gctgaatttt 120  
 tagctgtttt gagttgattc gcaccactgc accacaactc aatatgaaaa ctatttnact 180  
 tattttattat cttgtgaaaa gtatacaatg aaaattttgt tcatactgta tttatcaagt 240  
 atgatgaaaa gcaatagata tatattcttt tattatgttn aattatgatt gccattatta 300  
 atcggcaaaa tgtggagtggt atgttctttt cacagtaata tatgcctttt gtaacttcac 360  
 ttgggtattt tattgtaaat gaattacaaa attcttaatt taagaaaatg gtangttata 420  
 tttanttcana taatttcttt ccttgtttac gttaattttg aaaagaatgc at 472

<210> 96  
 <211> 476  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(476)  
 <223> n = A,T,C or G

<400> 96  
 ctgaagcatt tcttcaaact tntctacttt tgtcattgat acctgtagta agttgacaat 60  
 gtgggtgaaat ttcaaaatta tatgtaactt ctactagttt tactttctcc cccaagtctt 120  
 ttttaactca tgattttttac acacacaatc cagaacttat tatatagcct ctaagtcttt 180  
 attcttcaca gtagatgatg aaagagtctt ccagtgtctt gngcanaatg ttctagntat 240  
 agctggatac atacngtggg agttctataa actcatacct cagtggggact naaccaaaat 300  
 tgtgttagtc tcaattccta ccacactgag ggagcctccc aaatcactat attcttatct 360  
 gcaggtactc ctccagaaaa acngacaggg caggcttgca tgaaaaagtn acatctgcgt 420  
 taaaaagtct atcttctcta nangtctgtn aaggaacaat ttaatcttct agcttt 476

<210> 97  
 <211> 479  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(479)  
 <223> n = A,T,C or G

<400> 97  
 actcttttcta atgctgatat gatcttgagt ataagaatgc atatgtcact agaatggata 60  
 aaataatgct gcaaaacttaa tgttcttatg caaaatggaa cgctaataaa acacagctta 120

caatcgcaaa	tcaaaactca	caagtgtctca	tctgtttag	atttagtgta	ataagactta	180
gattgtgtctc	cttcggatat	gattgtttct	canatcttgg	gcaatnttcc	ttagtcaa	240
caggctacta	gaattctgtt	attggatatn	tgagagcatg	aaatttttaa	naatacactt	300
gtgattatna	aattaatcac	aaatttctact	tatacctgct	atcagcagct	agaaaaacat	360
ntnnttttta	natcaaagta	ttttgtgttt	ggaantgtnn	aaatgaaatc	tgaatgtggg	420
ttnatctta	ttttttcccn	gacnactant	tnctttttta	gggnctattc	tganccatc	479

&lt;210&gt; 98

&lt;211&gt; 461

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 98

agtgacttgt	cctccaacaa	aaccccttga	tcaagtttgt	ggcactgaca	atcagaccta	60
tgctagtcc	tgctcatctat	tcgctactaa	atgcagactg	gaggggacca	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaatctatt	cctacttgta	cggactttga	180
agtgattcag	tttctctac	ggatgagaga	ctggctcaag	aatatcctca	tgacgttta	240
tgaagccact	ctgaacacgc	tggttatcta	gatgagaaca	gagaaataaa	gtcagaaaat	300
ttacctggag	aaaagaggct	ttggctgggg	accatcccat	tgaaccttct	cttaaggact	360
ttaagaaaaa	ctaccacatg	ttgtgtatcc	tggtgccggc	cgtttatgaa	ctgaccaccc	420
tttggataaa	tcttgacgct	cctgaacttg	ctcctctgcg	a		461

&lt;210&gt; 99

&lt;211&gt; 171

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 99

gtggccgcgc	gcaggtgttt	cctcgtaccg	cagggccccc	tccttcccc	aggcgtccct	60
cggcgcctct	gcgggcccga	ggaggagcgg	ctggcggtg	gggggagtgt	gaccacccct	120
cggtgagaaa	agccttctct	agcgatctga	gaggcgtgcc	ttgggggtac	c	171

&lt;210&gt; 100

&lt;211&gt; 269

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 100

cgcccgcaag	tgcaactcca	gctggggcgc	tgccgacgaa	gattctgcca	gcagttggtc	60
cgactgcgac	gacggcggcg	gcgacagtgc	caggtgcagc	gcgggcgcct	ggggtcttgc	120
aaggctgagc	tgacgccgca	gaggtcgtgt	cacgtcccac	gaccttgacg	ccgtcgggga	180
cagccggaac	agagcccggg	gaagcgggag	gcctcgggga	gcccctcggg	aagggcggcc	240
cgagagatac	gcaggtgcag	gtggccgcc				269

&lt;210&gt; 101

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 101

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&lt;210&gt; 106

&lt;211&gt; 473

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 106

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&lt;211&gt; 1621

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 107

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<210> 108  
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<400> 108

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35     40     45
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50     55     60
Val Leu Arg Arg Leu Cys Lys Arg Ser Asp Val Leu Leu Glu Pro Phe
65     70     75     80
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85     90     95
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Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
180    185    190
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195    200    205
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Gly Thr Asp Ala Cys Val Thr Pro Val Leu Thr Phe Glu Glu Val Val
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His His Asp His Asn Lys Glu Arg Gly Ser Phe Ile Thr Ser Glu Glu
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Gln Asp Val Ser Pro Arg Pro Ala Pro Leu Leu Leu Asn Thr Pro Ala

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&lt;211&gt; 1289

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 111

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aagtgaaatc agcagagcct ctgggtggat gtgtagaagg cacttcaaaa tgcataaacc 1260
tgttacaatg ttaaaaaaaaa aaaaaaaaaa 1289

```

&lt;210&gt; 112

&lt;211&gt; 315

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 112

```

Met Val Phe Thr Val Arg Leu Leu His Ile Phe Thr Val Asn Lys Gln
1          5          10          15
Leu Gly Pro Lys Ile Val Ile Val Ser Lys Met Met Lys Asp Val Phe
20          25          30
Phe Phe Leu Phe Phe Leu Gly Val Trp Leu Val Ala Tyr Gly Val Ala
35          40          45
Thr Glu Gly Leu Leu Arg Pro Arg Asp Ser Asp Phe Pro Ser Ile Leu
50          55          60
Arg Arg Val Phe Tyr Arg Pro Tyr Leu Gln Ile Phe Gly Gln Ile Pro
65          70          75          80
Gln Glu Asp Met Asp Val Ala Leu Met Glu His Ser Asn Cys Ser Ser
85          90          95
Glu Pro Gly Phe Trp Ala His Pro Pro Gly Ala Gln Ala Gly Thr Cys
100          105          110
Val Ser Gln Tyr Ala Asn Trp Leu Val Val Leu Leu Leu Val Ile Phe
115          120          125
Leu Leu Val Ala Asn Ile Leu Leu Val Asn Leu Leu Ile Ala Met Phe
130          135          140
Ser Tyr Thr Phe Gly Lys Val Gln Gly Asn Ser Asp Leu Tyr Trp Lys
145          150          155          160
Ala Gln Arg Tyr Arg Leu Ile Arg Glu Phe His Ser Arg Pro Ala Leu
165          170          175
Ala Pro Pro Phe Ile Val Ile Ser His Leu Arg Leu Leu Leu Arg Gln
180          185          190
Leu Cys Arg Arg Pro Arg Ser Pro Gln Pro Ser Ser Pro Ala Leu Glu

```

		195					200					205				
His	Phe	Arg	Val	Tyr	Leu	Ser	Lys	Glu	Ala	Glu	Arg	Lys	Leu	Leu	Thr	
	210					215						220				
Trp	Glu	Ser	Val	His	Lys	Glu	Asn	Phe	Leu	Leu	Ala	Arg	Ala	Arg	Asp	
225					230						235				240	
Lys	Arg	Glu	Ser	Asp	Ser	Glu	Arg	Leu	Lys	Arg	Thr	Ser	Gln	Lys	Val	
				245						250				255		
Asp	Leu	Ala	Leu	Lys	Gln	Leu	Gly	His	Ile	Arg	Glu	Tyr	Glu	Gln	Arg	
			260					265						270		
Leu	Lys	Val	Leu	Glu	Arg	Glu	Val	Gln	Gln	Cys	Ser	Arg	Val	Leu	Gly	
		275					280					285				
Trp	Val	Ala	Glu	Ala	Leu	Ser	Arg	Ser	Ala	Leu	Leu	Pro	Pro	Gly	Gly	
	290					295						300				
Pro	Pro	Pro	Pro	Asp	Leu	Pro	Gly	Ser	Lys	Asp						
305					310					315						

```
<210> 113
<211> 553
<212> PRT
<213> Homo sapien
```

	<400>	113														
Met 1	Val	Gln	Arg	Leu 5	Trp	Val	Ser	Arg	Leu 10	Leu	Arg	His	Arg	Lys	Ala 15	
Gln	Leu	Leu	Leu	Val	Asn	Leu	Leu	Thr	Phe	Gly	Leu	Glu	Val	Cys	Leu	
			20					25					30			
Ala	Ala	Gly	Ile	Thr	Tyr	Val	Pro	Pro	Leu	Leu	Leu	Glu	Val	Gly	Val	
		35					40					45				
Glu	Glu	Lys	Phe	Met	Thr	Met	Val	Leu	Gly	Ile	Gly	Pro	Val	Leu	Gly	
	50					55					60					
Leu	Val	Cys	Val	Pro	Leu	Leu	Gly	Ser	Ala	Ser	Asp	His	Trp	Arg	Gly	
65					70				75						80	
Arg	Tyr	Gly	Arg	Arg	Arg	Pro	Phe	Ile	Trp	Ala	Leu	Ser	Leu	Gly	Ile	
				85					90					95		
Leu	Leu	Ser	Leu	Phe	Leu	Ile	Pro	Arg	Ala	Gly	Trp	Leu	Ala	Gly	Leu	
			100					105					110			
Leu	Cys	Pro	Asp	Pro	Arg	Pro	Leu	Glu	Leu	Ala	Leu	Leu	Ile	Leu	Gly	
		115					120					125				
Val	Gly	Leu	Leu	Asp	Phe	Cys	Gly	Gln	Val	Cys	Phe	Thr	Pro	Leu	Glu	
	130					135					140					
Ala	Leu	Leu	Ser	Asp	Leu	Phe	Arg	Asp	Pro	Asp	His	Cys	Arg	Gln	Ala	
145					150					155					160	
Tyr	Ser	Val	Tyr	Ala	Phe	Met	Ile	Ser	Leu	Gly	Gly	Cys	Leu	Gly	Tyr	
				165					170					175		
Leu	Leu	Pro	Ala	Ile	Asp	Trp	Asp	Thr	Ser	Ala	Leu	Ala	Pro	Tyr	Leu	
			180					185					190			
Gly	Thr	Gln	Glu	Glu	Cys	Leu	Phe	Gly	Leu	Leu	Thr	Leu	Ile	Phe	Leu	
		195					200					205				
Thr	Cys	Val	Ala	Ala	Thr	Leu	Leu	Val	Ala	Glu	Glu	Ala	Ala	Leu	Gly	
	210					215					220					
Pro	Thr	Glu	Pro	Ala	Glu	Gly	Leu	Ser	Ala	Pro	Ser	Leu	Ser	Pro	His	
225					230					235					240	
Cys	Cys	Pro	Cys	Arg	Ala	Arg	Leu	Ala	Phe	Arg	Asn	Leu	Gly	Ala	Leu	
				245					250					255		
Leu	Pro	Arg	Leu	His	Gln	Leu	Cys	Cys	Arg	Met	Pro	Arg	Thr	Leu	Arg	

260 265 270  
 Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe  
 275 280 285  
 Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val  
 290 295 300  
 Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly  
 305 310 315 320  
 Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu  
 325 330 335  
 Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg  
 340 345 350  
 Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala  
 355 360 365  
 Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu  
 370 375 380  
 Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala  
 385 390 395 400  
 Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly  
 405 410 415  
 Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu  
 420 425 430  
 Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala  
 435 440 445  
 Gly Gly Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser  
 450 455 460  
 Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala  
 465 470 475 480  
 Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp  
 485 490 495  
 Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser  
 500 505 510  
 Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala  
 515 520 525  
 Gly Leu Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp  
 530 535 540  
 Lys Ser Asp Leu Ala Lys Tyr Ser Ala  
 545 550

<210> 114  
 <211> 241  
 <212> PRT  
 <213> Homo sapien

<400> 114  
 Met Gln Cys Phe Ser Phe Ile Lys Thr Met Met Ile Leu Phe Asn Leu  
 1 5 10 15  
 Leu Ile Phe Leu Cys Gly Ala Ala Leu Leu Ala Val Gly Ile Trp Val  
 20 25 30  
 Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser  
 35 40 45  
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly  
 50 55 60  
 Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr  
 65 70 75 80  
 Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile

```
<210> 115
<211> 366
<212> DNA
<213> Homo sapien
```

```
<210> 116
<211> 282
<212> DNA
<213> Homo sapien
```

```
<210> 117
<211> 305
```



<212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(305)  
 <223> n = A,T,C or G

<400> 117  
 acacatgtcg cttcactgcc ttcttagatg cttctggtca acatanagga acagggacca 60  
 tatttatcct ccctcctgaa acaattgcaa aataanacaa aatatatgaa acaattgcaa 120  
 aataaggcaa aatatatgaa acaacagggtc tcgagatatt ggaaatcagt caatgaagga 180  
 tactgatccc tgatcactgt cctaattgcag gatgtgggaa acagatgagg tcacctctgt 240  
 gactgccccca gcttactgcc tgtagagagt ttctangctg cagttcagac agggagaaat 300  
 tgggt 305

<210> 118  
 <211> 71  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(71)  
 <223> n = A,T,C or G

<400> 118  
 accaagggtg ntgaatctct gacgtgggga tctctgattc ccgcacaatc tgagtggaaa 60  
 aantcctggg t 71

<210> 119  
 <211> 212  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(212)  
 <223> n = A,T,C or G

<400> 119  
 actccggttg gtgtcagcag cacgtggcat tgaacatngc aatgtggagc ccaaaccaca 60  
 gaaaatgggg tgaaattggc caactttcta tnaacttatg ttggcaantt tgccaccaac 120  
 agtaagctgg cccttctaataaaaagaaaat tgaaagggtt ctactaanc ggaattaant 180  
 aatggantca aganactccc aggcctcagc gt 212

<210> 120  
 <211> 90  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(90)  
 <223> n = A,T,C or G

&lt;400&gt; 120

actcgttgca natcaggggc cccccagagt caccgttgca ggagtccttc tggctcttgcc 60  
ctccgccggc gcagaacatg ctgggggtggt 90

&lt;210&gt; 121

&lt;211&gt; 218

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(218)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 121

tgtancgtga anacgacaga nagggttgtc aaaaatggag aanccttgaa gtcattttga 60  
gaataagatt tgctaaaaga tttgggggcta aaacatgggtt attgggagac atttctgaag 120  
atatncangt aaattangga atgaattcat gggtcttttg ggaattcctt tacgatngcc 180  
agcatanact tcatgtgggg atancagcta cccttgta 218

&lt;210&gt; 122

&lt;211&gt; 171

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 122

taggggtgta tgcaactgta aggacaaaaa ttgagactca actggcttaa ccaataaagg 60  
catttgtag ctcatggaac aggaagtcgg atgggtggggc atcttcagtg ctgcatgagt 120  
caccaccccg gcggggtcat ctgtgccaca ggtccctgtt gacagtgcgg t 171

&lt;210&gt; 123

&lt;211&gt; 76

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(76)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 123

tgtagcgtga agacnacaga atgggtgtgtg ctgtgctatc caggaacaca tttattatca 60  
ttatcaanta ttgtgt 76

&lt;210&gt; 124

&lt;211&gt; 131

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 124

acctttcccc aaggccaatg tcctgtgtgc taactggccg gctgcaggac agctgcaatt 60  
caatgtgctg ggtcatatgg aggggaggag actctaaaat agccaatttt atttctcttg 120  
ttaagatttg t 131

<210> 125  
 <211> 432  
 <212> DNA  
 <213> Homo sapien

<400> 125  
 actttatcta ctggctatga aatagatggg ggaaaattgc gttaccaact ataccactgg 60  
 cttgaaaaag aggtgatagc tcttcagagg acttgtgact tttgctcaga tgctgaagaa 120  
 ctacagtctg catttggcag aaatgaagat gaatttggat taaatgagga tgctgaagat 180  
 ttgcctcacc aaacaaaagt gaaacaactg agagaaaatt ttcaggaaaa aagacagtgg 240  
 ctcttgaagt atcagtcact tttgagaatg tttcttagtt actgcatact tcatggatcc 300  
 catgggtgggg gtcttgcacg tgtaagaatg gaattgattt tgcttttgca agaattctcag 360  
 caggaaacat cagaaccact attttctagc cctctgtcag agcaaaccct agtgccctctc 420  
 ctctttgctt gt 432

<210> 126  
 <211> 112  
 <212> DNA  
 <213> Homo sapien

<400> 126  
 acacaacttg aatagtaaaa tagaaactga gctgaaattt ctaattcact ttctaaccat 60  
 agtaagaatg atatttcccc ccagggatca ccaaatattt ataaaaattt gt 112

<210> 127  
 <211> 54  
 <212> DNA  
 <213> Homo sapien

<400> 127  
 accacgaaac cacaacaag atggaagcat caatccactt gccaaagcaca gcag 54

<210> 128  
 <211> 323  
 <212> DNA  
 <213> Homo sapien

<400> 128  
 acctcattag taattgtttt gttgtttcat ttttttctaa tgtctcccct ctaccagctc 60  
 acctgagata acagaatgaa aatggaagga cagccagatt tctcctttgc tctctgctca 120  
 ttctctctga agtctaggtt acccattttg gggaccatt ataggcaata aacacagttc 180  
 ccaaagcatt tggacagttt cttgtttgtg tttagaatgg ttttcctttt tcttagcctt 240  
 ttcttgcaaa aggctcactc agtcccttgc ttgctcagtg gactgggctc cccagggcct 300  
 aggctgcctt cttttccatg tcc 323

<210> 129  
 <211> 192  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(192)  
 <223> n = A,T,C or G

&lt;400&gt; 129

```

acatacatgt gtgtatatatt ttaaatatca cttttgtatc actctgactt tttagcatac      60
tgaaaacaca ctaacataat ttntgtgaac catgatcaga tacaacccaa atcattcatc      120
tagcacattc atctgtgata naaagatagg tgagtttcat ttccttcacg ttggccaatg      180
gataaacaaa gt                                     192

```

&lt;210&gt; 130

&lt;211&gt; 362

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(362)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 130

```

ccctttttta tggaatgagt agactgtatg tttgaanatt tanccacaac ctctttgaca      60
tataatgacg caacaaaaag gtgctgttta gtcctatggg tcagtttatg cccctgacaa      120
gtttccattg tgttttgccg atcttctggc taatcgtggg atcctccatg ttattagtaa      180
ttctgtattc cattttgcta acgcctggta gatgtaacct gctangaggc taactttata      240
cttattttaa agctcttatt ttgtggtcat taaaatggca atttatgtgc agcactttat      300
tgcagcagga agcacgtgtg ggttggttgt aaagctcttt gctaattctta aaaagtaatg      360
gg                                     362

```

&lt;210&gt; 131

&lt;211&gt; 332

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(332)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 131

```

ctttttgaaa gatcgtgtcc actcctgtgg acatcttggt ttaatggagt ttcccatgca      60
gtangactgg tatggttgca gctgtccaga taaaaacatt tgaagagctc caaaatgaga      120
gttctcccag gttcgccctg ctgctccaag tctcagcagc agcctctttt aggaggcatc      180
ttctgaacta gattaaggca gcttgtaa atctgatgtgat ttggtttatt atccaactaa      240
cttccatctg ttatcactgg agaaagccca gactccccc an gacnggtacg gattgtgggc      300
atanaaggat tgggtgaagc tggcggtgtg gt                                     332

```

&lt;210&gt; 132

&lt;211&gt; 322

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(322)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 132

```

acttttgcca ttttgtatat ataaacaatc ttgggacatt ctctgaaaa ctaggtgtcc      60

```

```

agtgggctaag agaactcgat ttcaagcaat tctgaaagga aaaccagcat gacacagaat 120
ctcaaattcc caaacagggg ctctgtggga aaaatgaggg aggacctttg tatctcgggt 180
tttagcaagt taaaatgaan atgacaggaa aggcttattt atcaacaaag agaagagttg 240
ggatgcttct aaaaaaaact ttggtagaga aaataggaat gctnaatcct agggaagcct 300
gtaacaatct acaattggtc ca 322

```

```

<210> 133
<211> 278
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(278)
<223> n = A,T,C or G

```

```

<400> 133
acaagccttc acaagtttaa cttaaattggg attaatcttt ctgtanttat ctgcataatt 60
cttgtttttc ttccatctg gctcctgggt tgacaatttg tggaacaac tctattgcta 120
ctatttaaaa aaaatcacia atctttccct ttaagctatg ttnaattcaa actattcctg 180
ctattcctgt ttgtcaaag aaattatatt ttccaaaata tgtntatttg ttgatgggt 240
cccacgaac actaataaaa accacagaga ccagcctg 278

```

```

<210> 134
<211> 121
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(121)
<223> n = A,T,C or G

```

```

<400> 134
gtttanaaaa cttgttttagc tccatagagg aaagaatggt aaactttgta ttttaaaaca 60
tgattctctg aggttaaact tggttttcaa atgttatatt tacttgatt ttgcttttgg 120
t 121

```

```

<210> 135
<211> 350
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(350)
<223> n = A,T,C or G

```

```

<400> 135
acttanaacc atgcctagca catcagaatc cctcaaagaa catcagtata atcctatacc 60
atancaagtg gtgactgggt aagcgtgcga caaaggtcag ctggcacatt acttgtgtgc 120
aaacttgata cttttgttct aagtaggaac tagtatacag tncctaggan tggtagtcca 180
gggtgcccc caactcctgc agccgctcct ctgtgccagn ccctgnaagg aactttcgct 240
ccacctcaat caagccctgg gccatgctac ctgcaattgg ctgaacaaac gtttgctgag 300
ttccaagga tgcaaagcct ggtgctcaac tcctggggcg tcaactcagt 350

```

<210> 136  
 <211> 399  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(399)  
 <223> n = A,T,C or G

<400> 136  
 tgtaccgtga agacgacaga agttgcatgg cagggacagg gcagggccga ggccagggtt 60  
 gctgtgattg tatccgaata ntccctcgtga gaaaagataa tgagatgacg tgagcagcct 120  
 gcagacttgt gtctgccttc aanaagccag acaggaaggc cctgcctgcc ttggctctga 180  
 cctggcgggc agccagccag ccacagggtg gcttcttctt tttgtggtga caacnccaag 240  
 aaaactgcag agggccaggg tcagggtgna gtgggtangt gaccataaaa caccagggtgc 300  
 tcccaggaac ccgggcaaag gccatcccca cctacagcca gcatgcccac tggcgtgatg 360  
 ggtgcagang gatgaagcag ccagntgttc tgctgtggt 399

<210> 137  
 <211> 165  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(165)  
 <223> n = A,T,C or G

<400> 137  
 actggtgtgg tngggggtga tgctggtggt anaagttgan gtgacttcan gatggtgtgt 60  
 ggaggaagtg tgtgaacgta gggatgtaga ngttttggcc gtgctaaatg agcttcggga 120  
 ttggctggtc ccactggtgg tcaactgtcat tgggtggggtt cctgt 165

<210> 138  
 <211> 338  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(338)  
 <223> n = A,T,C or G

<400> 138  
 actcactgga atgccacatt cacaacagaa tcagaggtct gtgaaaacat taatggctcc 60  
 ttaacttctc cagtaagaat cagggacttg aaatggaaac gttaacagcc acatgcccaa 120  
 tgctgggcag tctcccatgc cttccacagt gaaagggtt gagaaaaatc acatccaatg 180  
 tcatgtgttt ccagccacac caaaagggtg ttgggggtgga gggctggggg catananggt 240  
 cangcctcag gaagcctcaa gttccattca gctttgccac tgtacattcc ccatntttaa 300  
 aaaaactgat gccttttttt tttttttttt taaaattc 338

<210> 139  
 <211> 382

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 139

gggaatcttg	gtttttggca	tctggtttgc	ctatagccga	ggccactttg	acagaacaaa	60
gaaagggact	tgcagtaaga	aggtgattta	cagccagcct	agtgcccgaa	gtgaaggaga	120
attcaaacag	acctcgtcac	tcttggtgtg	agcctggtcg	gtcaccgcc	tatcatctgc	180
atttgcttta	ctcaggtgct	accggactct	ggccccgat	gtctgtagtt	tcacaggatg	240
ccttatttgt	cttctacacc	ccacagggcc	ccctacttct	tcggatgtgt	ttttaataat	300
gtcagctatg	tgccccatcc	tccttcacgc	cctccctccc	tttccacca	ctgctgagtg	360
gcctggaact	tgtttaaagt	gt				382

&lt;210&gt; 140

&lt;211&gt; 200

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (200)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 140

accaaanctt	ctttctgttg	tgtnngattt	tactataggg	gttnngcttn	ttctaaanat	60
acttttcatt	taacancttt	tgtaagtgt	caggctgcac	tttgctccat	anaattattg	120
ttttcacatt	tcaacttgta	tgtgtttgtc	tcttanagca	ttggtgaaat	cacatatttt	180
atattcagca	taaaggagaa					200

&lt;210&gt; 141

&lt;211&gt; 335

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (335)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 141

actttatttt	caaaacactc	atatgttgca	aaaaacacat	agaaaaataa	agtttggtgg	60
gggtgctgac	taaacttcaa	gtcacagact	tttatgtgac	agattggagc	agggtttgtt	120
atgcatgtag	agaacccaaa	ctaatttatt	aaacaggata	gaaacaggct	gtctgggtga	180
aatggttctg	agaaccatcc	aattcacctg	tcagatgctg	atanactagc	tcttcagatg	240
tttttctacc	agttcagaga	tnggttaatg	actanttcca	atggggaaaa	agcaagatgg	300
attcacaaac	caagtaattt	taaacaaaga	cattt			335

&lt;210&gt; 142

&lt;211&gt; 459

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (459)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 142

accagggttaa	tattgccaca	tatatccttt	ccaattgcgg	gctaaacaga	cgtgtattta	60
gggttggtta	aagacaaccc	agcttaatat	caagagaaat	tgtgacctt	catggagtat	120
ctgatggaga	aaacactgag	ttttgacaaa	tcttatttta	ttcagatagc	agtctgatca	180
cacatggtcc	aacaacactc	aaataataaa	tcaaatatna	tcagatgtta	aagattggtc	240
ttcaaacatc	atagccaatg	atgccccgct	tgcctataat	ctctccgaca	taaaaccaca	300
tcaaacacctc	agtggccacc	aaaccattca	gcacagcttc	cttaactgtg	agctgtttga	360
agctaccagt	ctgagcacta	ttgactatnt	ttttcangct	ctgaatagct	ctagggatct	420
cagcanggggt	gggaggaacc	agctcaacct	tggcgtant			459

&lt;210&gt; 143

&lt;211&gt; 140

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 143

acatttcctt	ccaccaagtc	aggactcctg	gcttctgtgg	gagttcttat	cacctgaggg	60
aatccaaac	agtctctcct	agaaaggaat	agtgtcacca	acccacacca	tctccctgag	120
accatccgac	ttccctgtgt					140

&lt;210&gt; 144

&lt;211&gt; 164

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (164)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 144

acttcagtaa	caacatacaa	taacaacatt	aagtgtatat	tgccatcttt	gtcattttct	60
atctatacca	ctctcccttc	tgaaaacaan	aatcactanc	caatcactta	tacaaatttg	120
aggcaattaa	tccatatttg	ttttcaataa	ggaaaaaaag	atgt		164

&lt;210&gt; 145

&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (303)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 145

acgtagacca	tccaactttg	tatttgtaat	ggcaaacatc	cagnagcaat	tcctaaacaa	60
actggagggt	atttataccc	aattatccca	ttcattaaca	tgccctcttc	ctcagggtat	120
gcaggacagc	tatcataagt	cggccccaggc	atccagatac	taccatttgt	ataaacttca	180
gtaggggagt	ccatccaagt	gacagggtcta	atcaaaggag	gaaatggaac	ataagcccag	240
tagtaaaatn	ttgcttagct	gaaacagcca	caaaagactt	accgccgtgg	tgattaccat	300
caa						303

&lt;210&gt; 146



<211> 327  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(327)  
 <223> n = A,T,C or G

<400> 146  
 actgcagctc aattagaagt ggtctctgac ttctcatcanc ttctccctgg gctccatgac 60  
 actggcctgg agtgactcat tgctctgggt gggtgagaga gctcctttgc caacaggcct 120  
 ccaagtcagg gctgggattt gtttcctttc cacattctag caacaatatg ctggccactt 180  
 cctgaacagg gaggggtggga ggagccagca tggaacaagc tgccactttc taaagtagcc 240  
 agacttgccc ctgggcctgt cacacctact gatgaccttc tgtgcctgca ggatggaatg 300  
 taggggtgag ctgtgtgact ctatgggt 327

<210> 147  
 <211> 173  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(173)  
 <223> n = A,T,C or G

<400> 147  
 acattgtttt tttagataa agcattgana gagctctcct taacgtgaca caatggaagg 60  
 actggaacac ataccacat ctttggtctg agggataatt ttctgataaa gtcttgctgt 120  
 atattcaagc acatatgtta tatattattc agttccatgt ttatagccta gtt 173

<210> 148  
 <211> 477  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(477)  
 <223> n = A,T,C or G

<400> 148  
 acaaccactt tatctcatcg aatttttaac ccaaactcac tcaactgtgcc ttcttatect 60  
 atgggatata ttatttgatg ctccatttca tcacacatat atgaataata cactcatact 120  
 gccctactac ctgctgcaat aatcacattc ccttctgtgc ctgaccctga agccattggg 180  
 gtggctctag tggccatcag tccangcctg caccttgagc ccttgagctc cattgtcac 240  
 nccanccac ctcaccgacc ccacccctt acacagctac ctccctgtgc tctaacccca 300  
 tagattatnt ccaaattcag tcaattaagt tactattaac actctaccg acatgtccag 360  
 caccactggt aagccttctc cagccaacac acacacacac acacacatat 420  
 ccaggcacag gctacctcat cttcacaatc acccctttaa ttaccatgct atgggtgg 477

<210> 149  
 <211> 207  
 <212> DNA

<213> Homo sapien

<400> 149

acagttgtat tataatatca agaaataaac ttgcaatgag agcattttaag agggaagaac	60
taacgtatatt tagagagcca aggaagggtt ctgtggggag tgggatgtaa ggtggggcct	120
gatgataaat aagagtcagc caggtaagtg ggtggtgtgg tatgggcaca gtgaagaaca	180
tttcaggcag agggaacagc agtgaaa	207

<210> 150

<211> 111

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (111)

<223> n = A,T,C or G

<400> 150

accttgattt cattgctgct ctgatggaaa cccaactatc taatttagct aaaacatggg	60
cacttaaatg tggtcagtgt ttggacttgt taactantgg catctttggg t	111

<210> 151

<211> 196

<212> DNA

<213> Homo sapien

<400> 151

agcgcggcag gtcattattga acattccaga tacctatcat tactcgatgc tgttgataac	60
agcaagatgg ctttgaactc agggtcacca ccagctattg gaccttacta tgaaaaccat	120
ggataccaac cggaaaaccc ctatccccgca cagcccactg tggccccac tgtctacgag	180
gtgcatccgg ctcagt	196

<210> 152

<211> 132

<212> DNA

<213> Homo sapien

<400> 152

acagcacttt cacatgtaag aaggagaaaa ttcttaaagt taggagaaag ataacagaac	60
cttccccctt tcatctagtg gtggaaacct gatgctttat gttgacagga atagaaccag	120
gagggagttt gt	132

<210> 153

<211> 285

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (285)

<223> n = A,T,C or G

<400> 153

acaanaccca nganaggcca ctggccgtgg tgtcatggcc tccaaacatg aaagtgtcag	60
---	----

```

cttctgctct tatgtcctca tctgacaact ctttaccatt tttatcctcg ctcagcagga      120
gcacatcaat aaagtccaaa gtcttggaact tggccttggc ttggaggaag tcatcaacac      180
cctggctagt gaggggtgcgg cgccgctcct ggatgacggc atctgtgaag tcgtgcacca      240
gtctgcaggc cctgtggaag cgccgtccac acggagtnag gaatt                          285

```

```

<210> 154
<211> 333
<212> DNA
<213> Homo sapien

```

```

<400> 154
accacagtcc tgttggggcca gggcttcatg accctttctg tgaaaagcca tattatcacc      60
accccaaatt tttccttaaa tatctttaac tgaaggggtc agcctcttga ctgcaaagac      120
cctaagccgg ttacacagct aactccact ggccctgatt tgtgaaattg ctgctgcctg      180
attggcacag gagtcgaagg tgttcagctc ccctcctcgg tggaacgaga ctctgatttg      240
agtttcacaa attctcgggc cacctcgtca ttgctcctct gaaataaaaat ccggagaatg      300
gtcaggcctg tctcatccat atggatcttc cgg                          333

```

```

<210> 155
<211> 308
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(308)
<223> n = A,T,C or G

```

```

<400> 155
actggaaata ataaaaccca catcacagtg ttgtgtcaaa gatcatcagg gcatggatgg      60
gaaagtgctt tgggaactgt aaagtgccta acacatgata gatgattttt gttataatat      120
ttgaatcacg gtgcatacaa actctcctgc ctgctcctcc tgggccccag cccagcccc      180
atcacagctc actgctctgt tcatccaggc ccagcatgta gtggctgatt cttcttggct      240
gcttttagcc tccanaagtt tctctgaagc caaccaaacc tctangtgta aggcattgctg      300
gccctggg                          308

```

```

<210> 156
<211> 295
<212> DNA
<213> Homo sapien

```

```

<400> 156
accttgctcg gtgcttgga catattagga actcaaaata tgagatgata acagtgccta      60
ttattgatta ctgagagAAC tgttagacat ttagttgaag attttctaca caggaactga      120
gaataggaga ttatgtttgg ccctcatatt ctctcctatc ctcttgcct cattctatgt      180
ctaatatatt ctcaatcaaa taagggttagc ataatcagga aatcgaccaa ataccaatat      240
aaaaccagat gtctatcctt aagattttca aatagaaaac aaattaacag actat          295

```

```

<210> 157
<211> 126
<212> DNA
<213> Homo sapien

```

```

<400> 157
acaagtttaa atagtgtgt cactgtgcat gtgctgaaat gtgaaatcca ccacatttct      60

```

gaagagcaaa acaaattctg tcatgtaatc tctatcttgg gtcgtgggta tatctgtccc 120  
cttagt 126

<210> 158  
<211> 442  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(442)  
<223> n = A,T,C or G

<400> 158  
accactggt cttggaaaca cccatcctta atacgatgat ttttctgtcg tgtgaaaatg 60  
aanccagcag gctgccccta gtcagtcctt ccttccagag aaaaagagat ttgagaaagt 120  
gcctgggtaa ttcaccatta atttcctccc ccaaactctc tgagtcttcc cttaatatatt 180  
ctggtggttc tgaccaaagc aggtcatggt ttgttgagca tttgggatcc cagtgaagta 240  
natgtttgta gccttgcata cttagccctt cccacgcaca aacggagtgg cagagtgggtg 300  
ccaaccctgt tttcccagtc cacgtagaca gattcacagt gcggaattct ggaagctgga 360  
nacagacggg ctctttgcag agccgggact ctgagangga catgagggcc tctgcctctg 420  
tgttcattct ctgatgtcct gt 442

<210> 159  
<211> 498  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(498)  
<223> n = A,T,C or G

<400> 159  
acttccaggt aacgttggtg tttccggtga gcctgaactg atgggtgacg ttgtagggttc 60  
tccaacaaga actgaggttg cagagcgggt agggagagat gctgttccag ttgcacctgg 120  
gctgctgtgg actgttggtg attcctcact acggcccaag gttgtggaac tggcanaaag 180  
gtgtgtgtgt gganttgagc tcggggcggt gtggtagggt gtgggtctct caacaggggc 240  
tgctgtggtg ccgggangtg aangtggtgt gtcacttgag ctgggccagc tctggaaaagt 300  
antanattct tcctgaaggc cagcgcttgt ggagctggca ngggtcantg ttgtgtgtaa 360  
cgaaccagtg ctgctgtggg tgggtgtana tcctccacaa agcctgaagt tatgggtgcn 420  
tcaggtana atgtggtttc agtgtccctg ggcngctgtg gaaggttgta nattgtcacc 480  
aagggaataa gctgtggt 498

<210> 160  
<211> 380  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(380)  
<223> n = A,T,C or G

<400> 160

```

acctgcatcc agcttccctg ccaaactcac aaggagacat caacctctag acagggaaac      60
agcttcagga tacttccagg agacagagcc accagcagca aaacaaatat tcccatgcct      120
ggagcatggc atagaggaag ctganaaatg tgggggtctga ggaagccatt tgagtctggc      180
cactagacat ctcatcagcc acttgtgtga agagatgccc catgacccca gatgcctctc      240
ccacccttac ctccatctca cacacttgag ctttccactc tgtataattc taacatcctg      300
gagaaaaatg gcagtttgac cgaacctggt cacaacggta gaggctgatt tctaacgaaa      360
cttgtagaat gaagcctgga                                     380

```

```

<210> 161
<211> 114
<212> DNA
<213> Homo sapien

```

```

<400> 161
actccacatc ccctctgagc aggcggttgt cgttcaagggt gtatttggcc ttgcctgtca      60
cactgtccac tggcccctta tccacttggt gcttaatccc tcgaaagagc atgt          114

```

```

<210> 162
<211> 177
<212> DNA
<213> Homo sapien

```

```

<400> 162
actttctgaa tcgaatcaaa tgatacttag tgtagtttta atatcctcat atatatcaaa      60
gttttactac tctgataatt ttgtaaacca ggtaaccaga acatccagtc atacagcttt      120
tggtgatata taacttggca ataaccagc ctggtgatac ataaaactac tcactgt        177

```

```

<210> 163
<211> 137
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(137)
<223> n = A,T,C or G

```

```

<400> 163
catttataca gacaggcgtg aagacattca cgacaaaaac gcgaaattct atcccgtgac      60
canagaaggc agctacggct actcctacat cctggcgtgg gtggccttcg cctgcacctt      120
catcagcggc atgatgt                                     137

```

```

<210> 164
<211> 469
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(469)
<223> n = A,T,C or G

```

```

<400> 164
cttatcacia tgaatgttct cctgggcagc gttgtgatct ttgccacctt cgtgacttta      60
tgcaatgcat catgctatct catacctaag gagggaggtc caggagattc aaccaggaaa      120

```

tgcattggatc tcaaaggaaa caaacaccca ataaactcgg agtggcagac tgacaactgt	180
gagacatgca cttgctacga aacagaaatt tcattgttgc cccttgtttc tacacctgtg	240
ggttatgaca aagacaactg ccaaagaatc ttcaagaagg aggactgcaa gtatatcgtg	300
gtggagaaga aggacccaaa aaagacctgt tctgtcagtg aatggataat ctaatgtgct	360
tctagtaggc acagggctcc caggccaggc ctcattctcc tctggcctct aatagtcaat	420
gattgtgtag ccattgcctat cagtaaaaag atntttgagc aaacacttt	469

&lt;210&gt; 165

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (195)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 165

acagtttttt atanatatcg acattgccgg cacttgtgtt cagtttcata aagctgggtg	60
atccgctgtc atccactatt ccttggctag agtaaaaatt attcttatag cccatgtccc	120
tgcaggcgc cgcgccgtag ttctcgctcc agtcgtcttg gcacacaggg tgccaggact	180
tcctctgaga tgagt	195

&lt;210&gt; 166

&lt;211&gt; 383

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (383)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 166

acattcttagt agtgtggcac atcagggggc catcagggtc acagtcactc atagcctcgc	60
cgaggctcga gtccacacca ccggtgtagg tgtgtcaat cttgggcttg gcgcccacct	120
ttggagaagg gatatgctgc acacacatgt ccacaaagcc tgtgaactcg ccaaagaatt	180
tttgcagacc agcctgagca aggggcggat gttcagcttc agctcctcct tcgtcagggtg	240
gatgccaacc tcgtctangg tccgtgggaa gctgggtgtc acntcaccta caacctgggc	300
gangatctta taaagaggct ccnagataaa ctccacgaaa cttctctggg agctgctagt	360
nggggccttt ttggtgaact ttc	383

&lt;210&gt; 167

&lt;211&gt; 247

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (247)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 167

acagagccag accttggcca taaatgaanc agagattaag actaaacccc aagtcganat	60
tggagcagaa actggagcaa gaagtgggccc tggggctgaa gtagagacca aggccactgc	120

tatanccata cacagagcca actctcaggc caaggcnatg gttggggcag anccagagac	180
tcaatctgan tccaaagtgg tggctggaac actgggcatg acanaggcag tgactctgac	240
tgangtc	247

<210> 168  
 <211> 273  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(273)  
 <223> n = A,T,C or G

<400> 168	
acttctaagt tttctagaag tggaaggatt gtantcatcc tgaaaatggg tttacttcaa	60
aatccctcan ccttggttctt cactactgtc tatactgana gtgtcatggt tccacaaaagg	120
gctgacacct gagcctgnat tttcactcat ccctgagaag ccctttccag taggggtgggc	180
aattcccaac ttccttgcca caagcttccc aggctttctc ccctggaaaa ctccagcttg	240
agtcccagat acactcatgg gctgcccctgg gca	273

<210> 169  
 <211> 431  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(431)  
 <223> n = A,T,C or G

<400> 169	
acagccttgg cttccccaaa ctccacagtc tcagtgcaga aagatcatct tccagcagtc	60
agctcagacc aggggtcaaag gatgtgacat caacagtttc tggtttcaga acaggttcta	120
ctactgtcaa atgaccccc atacttcctc aaaggctgtg gtaagttttg cacagggtgag	180
ggcagcagaa aggggggtant tactgatgga caccatcttc tctgtatact ccacactgac	240
cttgccatgg gcaaaggccc ctaccacaaa aacaatagga tcactgctgg gcaccagctc	300
acgcacatca ctgacaaccg ggatggaaaa agaantgcca actttcatac atccaactgg	360
aaagtgatct gatactggat tcttaattac cttcaaaaagc ttctgggggc catcagctgc	420
tcgaacactg a	431

<210> 170  
 <211> 266  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(266)  
 <223> n = A,T,C or G

<400> 170	
acctgtgggc tgggctgtta tgccctgtgcc ggctgctgaa agggagttca gaggtggagc	60
tcaaggagct ctgcaggcat ttgccaanc ctctccanag canagggagc aacctacact	120
ccccgctaga aagacaccag attggagtc tgggaggggg agttgggggtg ggcatttgc	180

gtatacttgt cacctgaatg aangagccag agaggaanga gacgaanatg anattggcct 240  
tcaaagctag gggctctggca ggtgga 266

<210> 171

<211> 1248

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(1248)

<223> n = A,T,C or G

<400> 171

ggcagccaaa tcataaacgg cgaggactgc agcccgcact cgcagccctg gcaggcggca 60  
ctggctcatg aaaacgaatt gttctgctcg ggcgtcctgg tgcattccgca gtgggtgctg 120  
tcagccgcac actgtttcca gaagtgaagt cagagctcct acaccatcgg gctgggcctg 180  
cacagtcttg aggccgacca agagccaggg agccagatgg tggaggccag cctctccgta 240  
cggcaccag agtacaacag acccttgctc gctaacgacc tcatgctcat caagttggac 300  
gaatccgtgt ccgagtctga caccatccgg agcatcagca ttgcttcgca gtgccctacc 360  
gcggggaaact cttgcctcgt ttctggctgg ggtctgctgg cgaacggcag aatgcctacc 420  
gtgctgcagt gcgtgaacgt gtcggtggtg tctgaggagg tctgcagtaa gctctatgac 480  
ccgctgtacc accccagcat gttctgcgcc ggcggagggc aagaccagaa ggactcctgc 540  
aacggtgact ctggggggcc cctgatctgc aacgggtact tgcagggcct tgtgtctttc 600  
ggaaaagccc cgtgtggcca agttggcgtg ccaggtgtct acaccaacct ctgcaaattc 660  
actgagtggg tagagaaaac cgtccaggcc agttaactct ggggactggg aacctatgaa 720  
attgaccccc aaatacatcc tgcggaagga attcaggaat atctgttccc agcccctcct 780  
ccctcaggcc caggagtcca gggcccccagc ccctcctccc tcaaaccaag ggtacagatc 840  
cccagccctt cctccctcag acccaggagt ccagaccccc cagccctccc tccctcagac 900  
ccaggagtcc agcccctcct ccctcagacc caggagtcca gacccccag cccctcctcc 960  
ctcagaccca ggggtccagg cccccaaccc ctccctccctc agactcagag gtccaagccc 1020  
ccaaccntc attccccaga cccagaggtc caggtcccag cccctcntcc ctcagaccca 1080  
gcggtccaat gccacctaga ctntccctgt acacagtgcc cccttgtggc acgttgaccc 1140  
aaccttacca gttggttttt catttttngt ccctttcccc tagatccaga aataaagttt 1200  
aagagaagng caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1248

<210> 172

<211> 159

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> (1)...(159)

<223> Xaa = Any Amino Acid

<400> 172

Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro  
1 5 10 15  
Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser  
20 25 30  
Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr  
35 40 45  
Ala Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly  
50 55 60



Arg Met Pro Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu  
 65 70 75 80  
 Glu Val Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe  
 85 90 95  
 Cys Ala Gly Gly Gly Gln Xaa Gln Xaa Asp Ser Cys Asn Gly Asp Ser  
 100 105 110  
 Gly Gly Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe  
 115 120 125  
 Gly Lys Ala Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn  
 130 135 140  
 Leu Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser  
 145 150 155

<210> 173  
 <211> 1265  
 <212> DNA  
 <213> Homo sapien  
  
 <220>  
 <221> misc\_feature  
 <222> (1)...(1265)  
 <223> n = A,T,C or G

<400> 173  
 ggcagcccg actcgcagcc ctggcaggcg gcactgggtca tggaaaacga attgttctgc 60  
 tcggggcgcc tgggtgcatcc gcagtgggtg ctgtcagccg cacactgttt ccagaactcc 120  
 tacaccatcg ggctgggcct gcacagtctt gagggccgacc aagagccagg gagccagatg 180  
 gtggaggcca gcctctccgt acggcaccca gactacaaca gacccttgct cgctaacgac 240  
 ctcatgctca tcaagttgga cgaatccgtg tccgagtctg acaccatccg gagcatcagc 300  
 attgcttcgc agtgccctac cgcggggaac tcttgccctg tttctggctg gggctctgctg 360  
 gcgaacgggtg agctcacggg tgtgtgtctg ccctcttcaa ggaggtcctc tgcccagtcg 420  
 cgggggctga cccagagctc tgcgtcccag gcagaatgcc taccgtgctg cagtgcgtga 480  
 acgtgtcggg ggtgtctgag gaggtctgca gtaagctcta tgaccgcgtg taccaccca 540  
 gcatgttctg cgccggcgga gggcaagacc agaaggactc ctgcaacggg gactctgggg 600  
 ggccccctgat ctgcaacggg tacttgagg gcttctgtgtc tttcggaaaa gccccgtgtg 660  
 gccaaagtgg cgtgccagggt gtctacacca acctctgcaa attcactgag tggatagaga 720  
 aaaccgtcca ggccagttaa ctctggggac tgggaaccca tgaaattgac ccccaaatac 780  
 atcctgcgga aggaattcag gaatatctgt tcccagcccc tcctccctca ggcccaggag 840  
 tccaggcccc cagcccctcc tccctcaaac caagggtaca gatccccagc ccctcctccc 900  
 tcagacccag gagtccagac cccccagccc ctctcctc agacccagga gtccagcccc 960  
 tcctccntca gacccaggag tccagacccc ccagcccctc ctccctcaga cccaggggtt 1020  
 gaggccccca acccctcctc cttcagagtc agagggtccaa gcccccaacc cctcgttccc 1080  
 cagacccaga ggttnagggt ccagcccctc ttcctcaga cccagnggtc caatgccacc 1140  
 tagattttcc ctgnacacag tgcccccttg tggngangttg acccaacctt accagttggt 1200  
 ttttcatttt tngtcccttt cccctagatc cagaaataaa gtttaagaga ngngcaaaaa 1260  
 aaaaa 1265

<210> 174  
 <211> 1459  
 <212> DNA  
 <213> Homo sapien  
  
 <220>  
 <221> misc\_feature  
 <222> (1)...(1459)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 174

ggtcagccgc	acactgtttc	cagaagtgag	tgcagagctc	ctacaccatc	gggctgggcc	60
tgcacagtct	tgaggccgac	caagagccag	ggagccagat	ggtggaggcc	agcctctccg	120
tacggcacc	agagtacaac	agacccttgc	tcgctaacga	cctcatgctc	atcaagtgg	180
acgaatccgt	gtccgagtct	gacaccatcc	ggagcatcag	cattgcttcg	cagtgccta	240
ccgcggggaa	ctcttgcttc	gtttctggct	ggggtctgct	ggcgaacggt	gagctcacgg	300
gtgtgtgtct	gccctcttca	aggaggtcct	ctgcccagtc	gcgggggctg	acccagagct	360
ctgcgtccca	ggcagaatgc	ctaccgtgct	gcagtgcgtg	aacgtgtcgg	tggtgtctga	420
ngaggtctgc	antaagctct	atgacccgct	gtaccacccc	ancatgttct	gcgccggcgg	480
agggcaagac	cagaaggact	cctgcaacgt	gagagagggg	aaaggggagg	gcaggcgact	540
caggggaagg	tggagaagg	ggagacagag	acacacaggg	ccgcatggcg	agatgcagag	600
atggagagac	acacagggag	acagtgacaa	ctagagagag	aaactgagag	aaacagagaa	660
ataaacacag	gaataaagag	aagcaaagga	agagagaaac	agaaacagac	atggggaggc	720
agaaacacac	acacatagaa	atgcagttga	ccttccaaca	gcatggggcc	tgagggcggg	780
gacctccacc	caatagaaaa	tcctcttata	acttttgact	ccccaaaaac	ctgactagaa	840
atagcctact	gttgacgggg	agccttacca	ataacataaa	tagtcgattt	atgcatacgt	900
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gtctgtgaat	ttttttaaat	tgttgcaact	ctcctaaaat	ttttctgatg	tgtttattga	1020
aaaaatccaa	gtataagtgg	acttgtgcat	tcaaaccagg	gttgttcaag	ggtcaactgt	1080
gtaccagag	ggaaaacagt	acacagattc	atagaggtga	aacacgaaga	gaaacaggaa	1140
aaatcaagac	tctacaaaga	ggctgggcag	ggtgggtcat	gcctgtaatc	ccagcacttt	1200
gggaggcgag	gcaggcagat	cacttgaggt	aaggagttca	agaccagcct	ggccaaaatg	1260
gtgaaatcct	gtctgtacta	aaaatacaaa	agttagctgg	atatggtggc	aggcgcctgt	1320
aatcccagct	acttgggagg	ctgaggcagg	agaattgctt	gaatatggga	ggcagaggtt	1380
gaagtgagtt	gagatcacac	cactatactc	cagctggggc	aacagagtaa	gactctgtct	1440
caaaaaaaaa	aaaaaaaaa					1459

&lt;210&gt; 175

&lt;211&gt; 1167

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(1167)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 175

gcgcagccct	ggcaggcggc	actggtcatg	gaaaacgaat	tgttctgctc	gggcgtcctg	60
gtgcatccgc	agtgggtgct	gtcagccgca	cactgtttcc	agaactccta	caccatcggg	120
ctgggcctgc	acagtcttga	ggccgaccaa	gagccaggga	gccagatggg	ggaggccagc	180
ctctccgtac	ggcaccacga	gtacaacaga	ctcttgctcg	ctaacgacct	catgctcatc	240
aagttggacg	aatccgtgtc	cgagtctgac	accatccgga	gcatcagcat	tgcttcgcag	300
tgcctaccg	cggggaaactc	ttgcctcgtn	tctggctggg	gtctgctggc	gaacggcaga	360
atgcctaccg	tgctgcactg	cgtgaacgtg	tcgggtggtg	ctgaggangt	ctgcagtaag	420
ctctatgacc	cgctgtacca	ccccagcatg	ttctgcgccg	gcggaggggca	agaccagaag	480
gactcctgca	acggtgactc	tgggggggccc	ctgatctgca	acgggtactt	gcagggcctt	540
gtgtctttcg	gaaaagcccc	gtgtggccaa	cttggcgtgc	caggtgtcta	caccaacctc	600
tgcaaattca	ctgagtggat	agagaaaacc	gtccagncca	gttaactctg	gggactggga	660
acccatgaaa	ttgaccccca	aatacatcct	gcggaangaa	ttcaggaata	tctgttccca	720
gcccctcctc	cctcaggccc	aggagtccag	gccccagcc	cctcctccct	caaaccaagg	780
gtacagatcc	ccagcccctc	ctccctcaga	cccaggagtc	cagacccccc	agcccctcnt	840
ccntcagacc	caggagtcca	gcccctcctc	cntcagacgc	aggagtccag	acccccagc	900

```

ccntcntccg tcagacccag ggggtgcaggc ccccaacccc tcntccntca gagtcagagg      960
tccaagcccc caacccctcg ttccccagac ccagaggtnc aggtcccagc ccctcctccc      1020
tcagacccag cgggtccaatg ccacctagan tntccctgta cacagtgcgc ccttggtggca      1080
ngttgaccca accttaccag ttgggtttttc attttttgtc cctttccctt agatccagaa      1140
ataaagtnta agagaagcgc aaaaaaa                                1167

```

&lt;210&gt; 176

&lt;211&gt; 205

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (1)...(205)

&lt;223&gt; Xaa = Any Amino Acid

&lt;400&gt; 176

```

Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1          5          10          15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20          25          30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35          40          45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Leu Leu Leu
 50          55          60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65          70          75          80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85          90          95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met
100          105          110
Pro Thr Val Leu His Cys Val Asn Val Ser Val Val Ser Glu Xaa Val
115          120          125
Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala
130          135          140
Gly Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly
145          150          155          160
Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys
165          170          175
Ala Pro Cys Gly Gln Leu Gly Val Pro Gly Val Tyr Thr Asn Leu Cys
180          185          190
Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Xaa Ser
195          200          205

```

&lt;210&gt; 177

&lt;211&gt; 1119

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 177

```

gcgcactcgc agccctggca ggcggcactg gtcattggaaa acgaattgtt ctgctcgggc      60
gtcctggtgc atccgcagtg ggtgctgtca gccgcacact gttccagaa ctcctacacc      120
atcgggctgg gcctgcacag tcttgaggcc gaccaagagc cagggagcca gatggtggag      180
gccagcctct ccgtacggca cccagagtac aacagaccct tgctcgctaa cgacctcatg      240
ctcatcaagt tggacgaatc cgtgtccgag tctgacacca tccggagcat cagcattgct      300

```

tcgcagtgcc	ctaccgcggg	gaactcttgc	ctcgtttctg	gctgggggtct	gctggcgaac	360
gatgctgtga	ttgccatcca	gtcccagact	gtgggaggct	gggagtgtga	gaagctttcc	420
caaccctggc	agggttgtac	catttcggca	acttccagt	caaggacgtc	ctgctgcatc	480
ctcactgggt	gctcactact	gctcactgca	tcacccgga	cactgtgatc	aactagccag	540
caccatagtt	ctccgaagtc	agactatcat	gattactgtg	ttgactgtgc	tgtctattgt	600
actaaccatg	ccgatgttta	ggtgaaatta	gcgtcacttg	gcctcaacca	tcttggtatc	660
cagttatcct	cactgaattg	agatttcctg	cttcagtgtc	agccattccc	acataatttc	720
tgacctacag	aggtagggga	tcatatagct	cttcaaggat	gctggtactc	ccctcacaaa	780
ttcattttctc	ctgttgtagt	gaaagggtgcg	ccctctggag	cctcccaggg	tgggtgtgca	840
ggtcacaatg	atgaatgtat	gatcgtgttc	ccattaccca	aagccttta	atccctcatg	900
ctcagtacac	cagggcaggt	ctagcatttc	ttcatttagt	gtatgctgtc	cattcatgca	960
accacctcag	gactcctgga	ttctctgcct	agttgagctc	ctgcatgctg	cctccttggtg	1020
gaggtgaggg	agagggccca	tggttcaatg	ggatctgtgc	agttgtaaca	cattaggtgc	1080
ttaataaaca	gaagctgtga	tgtaaaaaa	aaaaaaaaa			1119

&lt;210&gt; 178

&lt;211&gt; 164

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (1)...(164)

&lt;223&gt; Xaa = Any Amino Acid

&lt;400&gt; 178

Met	Glu	Asn	Glu	Leu	Phe	Cys	Ser	Gly	Val	Leu	Val	His	Pro	Gln	Trp
1				5					10					15	
Val	Leu	Ser	Ala	Ala	His	Cys	Phe	Gln	Asn	Ser	Tyr	Thr	Ile	Gly	Leu
			20					25					30		
Gly	Leu	His	Ser	Leu	Glu	Ala	Asp	Gln	Glu	Pro	Gly	Ser	Gln	Met	Val
		35				40					45				
Glu	Ala	Ser	Leu	Ser	Val	Arg	His	Pro	Glu	Tyr	Asn	Arg	Pro	Leu	Leu
	50				55						60				
Ala	Asn	Asp	Leu	Met	Leu	Ile	Lys	Leu	Asp	Glu	Ser	Val	Ser	Glu	Ser
65				70					75					80	
Asp	Thr	Ile	Arg	Ser	Ile	Ser	Ile	Ala	Ser	Gln	Cys	Pro	Thr	Ala	Gly
			85					90					95		
Asn	Ser	Cys	Leu	Val	Ser	Gly	Trp	Gly	Leu	Leu	Ala	Asn	Asp	Ala	Val
			100					105					110		
Ile	Ala	Ile	Gln	Ser	Xaa	Thr	Val	Gly	Gly	Trp	Glu	Cys	Glu	Lys	Leu
		115				120					125				
Ser	Gln	Pro	Trp	Gln	Gly	Cys	Thr	Ile	Ser	Ala	Thr	Ser	Ser	Ala	Arg
	130				135					140					
Thr	Ser	Cys	Cys	Ile	Leu	Thr	Gly	Cys	Ser	Leu	Leu	Leu	Thr	Ala	Ser
145				150						155				160	
Pro	Gly	Thr	Leu												

&lt;210&gt; 179

&lt;211&gt; 250

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 179

ctggagtgcc	ttggtgtttc	aagcccctgc	aggaagcaga	atgcaccttc	tgaggcacct	60
ccagctgcc	ccggccggg	gatgcgaggc	tcggagcacc	cttgcccggc	tgtgattgct	120
gccaggcact	gttcattctca	gcttttctgt	ccctttgctc	ccggcaagcg	cttctgctga	180
aagttcatat	ctggagcctg	atgtcttaac	gaataaaggt	cccatgctcc	acccgaaaaa	240
aaaaaaaaaa						250

&lt;210&gt; 180

&lt;211&gt; 202

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 180

actagtccag	tgtggtggaa	ttccattgtg	ttggggcccaa	cacaatggct	acctttaaca	60
tcacccagac	cccggcccctg	cccgtgcccc	acgctgctgc	taacgacagt	atgatgctta	120
ctctgctact	cggaaactat	ttttatgtaa	ttaatgtatg	ctttcttggt	tataaatgcc	180
tgattttaaaa	aaaaaaaaaa	aa				202

&lt;210&gt; 181

&lt;211&gt; 558

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (558)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 181

tccytttgkt	naggtttkkg	agacamccc	agacctwaan	ctgtgtcaca	gacttcyngg	60
aatgttttagg	cagtgtctagt	aatttcytcg	taatgattct	gttattactt	tcctnattct	120
ttattcctct	ttcttctgaa	gattaatgaa	gttgaaaatt	gagggtggata	aatacaaaaa	180
ggtagtgtga	tagtataagt	atctaagtc	agatgaaagt	gtgttatata	tatccattca	240
aaattatgca	agttagtaat	tactcaggg	taactaaatt	actttaatat	gctggtgaac	300
ctactctggt	ccttggctag	aaaaaattat	aaacaggact	ttgttagttt	gggaagccaa	360
attgataata	ttctatgttc	taaaagttgg	gctatacata	aattattaag	aaatatggaw	420
ttttattccc	aggaatatgg	kgttcatttt	atgaatatta	cscrggatag	awgtwtgagt	480
aaaaycagtt	ttggtwaata	ygtwaatatg	tcmtaaataa	acaakgcttt	gacttatttc	540
caaaaaaaaa	aaaaaaaaa					558

&lt;210&gt; 182

&lt;211&gt; 479

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (479)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 182

acagggwttk	grggatgcta	agsccccrga	rwtygtttga	tccaaccctg	gcttwttttc	60
agaggggaaa	atggggccta	gaagttacag	mecatytagy	tggtgcgmtg	gcacccctgg	120
cstcacacag	astcccagag	agctgggact	acaggcacac	agtcactgaa	gcaggccctg	180
ttwgcaattc	acgttgccac	ctccaactta	aacattcttc	atatgtgatg	tccttagtca	240
ctaagggttaa	actttcccac	ccagaaaagg	caacttagat	aaaatcttag	agtactttca	300

tactmttcta agtcctcttc cagcctcact kkgagtcctm cytggggggtt gataggaant	360
ntctcttggc tttctcaata aartctctat ycatctcatg ttttaatttgg tacgcatara	420
awtgstgara aaattaaaat gttctgggtty macttttaaaa araaaaaaaa aaaaaaaaaa	479

&lt;210&gt; 183

&lt;211&gt; 384

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 183

aggcgggagc agaagctaaa gccaaagccc aagaagagtg gcagtgccag cactggtgcc	60
agtaccagta ccaataacag tgccagtgcc agtgccagca ccagtgggtg cttcagtgtc	120
ggtgccagcc tgaccgccac tctcacattt gggctcttcg ctggccttgg tggagctggt	180
gccagcacca gtggcagctc tggtgccgtg ggtttctcct acaagtgaga ttttagatat	240
tgtaatcct gccagtcttt ctcttcaagc cagggtgcat cctcagaaac ctactcaaca	300
cagcactcta ggcagccact atcaatcaat tgaagttgac actctgcatt aratctattt	360
gccatttcaa aaaaaaaaaa aaaa	384

&lt;210&gt; 184

&lt;211&gt; 496

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(496)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 184

accgaattgg gaccgctggc ttataagcga tcatgtyynt ccrgtatkac ctcaacgagc	60
agggagatcg agtctatacg ctgaagaaat ttgacccgat gggacaacag acctgctcag	120
cccatcctgc tcggttctcc ccagatgaca aatactctsg acaccgaatc accatcaaga	180
aacgcttcaa ggtgctcatg acccagcaac cgcgcctgt cctctgaggg tcccttaaac	240
tgatgtcttt tctgccacct gttacccctc ggagactccg taaccaaact cttcggactg	300
tgagccctga tgcctttttg ccagccatac tctttggcat ccagtctctc gtggcgattg	360
attatgcttg tgtgaggcaa tcatgggtggc atcaccata aagggaaacac atttgacttt	420
tttttctcat attttaaatt actacmagaw tattwmagaw waaatgawtt gaaaaactst	480
taaaaaaaaa aaaaaa	496

&lt;210&gt; 185

&lt;211&gt; 384

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 185

gctggtagcc tatggcgkgg ccacagggagg ggctcctgag gccacggrac agtgacttcc	60
caagtatcyt gcgcsgcgtc ttctaccgtc cctacctgca gatcttcggg cagattcccc	120
aggaggacat ggacgtggcc ctcatggagc acagcaactg ytcgtcggag cccggcttct	180
gggcacaccc tcttggggcc caggcgggca cctgcgtctc ccagtatgcc aactggctgg	240
tggtgctgct cctcgtcatc ttctgtctcg tggccaacat cctgctgggc aacttgctca	300
ttgccatgtt cagttacaca ttcggcaaag tacagggcaa cagcgatctc tactgggaag	360
gcgcagcgtt accgcctcat ccgg	384

&lt;210&gt; 186

&lt;211&gt; 577

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (577)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 186

gagttagctc	ctccacaacc	ttgatgaggt	cgtctgcagt	ggcctctcgc	ttcataccgc	60
tnccatcgctc	atactgtagg	tttgccacca	cytcctggca	tcttggggcg	gcntaatatt	120
ccaggaaact	ctcaatcaag	tcaccgctga	tgaaacctgt	gggctgggtc	tgtcttccgc	180
tcggtgtgaa	aggatctccc	agaaggagtg	ctcgatcttc	cccacacttt	tgatgacttt	240
attgagtcga	ttctgcatgt	ccagcaggag	gttgtaggag	ctctctgaca	gtgagggtcac	300
cagccctatc	atgccgttga	mcgtgccgaa	garcaccgag	ccttgtgtgg	gggkkgaaagt	360
ctcaccacga	ttctgcatta	ccagagagcc	gtggcaaaag	acattgacaa	actcgcccag	420
gtggaaaaag	amcamctcct	ggargtgctn	gccgctcttc	gtcmgttggt	ggcagcgctw	480
tccttttgac	acacaaacaa	gttaaaggca	ttttcagccc	ccagaaantt	gtcatcatcc	540
aagatntcgc	acagcactna	tccagttggg	attaaat			577

&lt;210&gt; 187

&lt;211&gt; 534

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (534)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 187

aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatn	ttgtctgstg	agaatycatw	60
actkggaaaa	gmaacattaa	agcctggaca	ctgggtattaa	aattcacaat	atgcaacact	120
ttaaacagtg	tgtcaatctg	ctcccyynac	tttgtcatca	ccagtctggg	aakaagggtta	180
tgccctattc	acacctgtta	aaagggcgct	aagcattttt	gattcaacat	cttttttttt	240
gacacaagtc	cgaaaaaagc	aaaagtaaac	agttatyaat	ttgttagcca	attcactttc	300
ttcatgggac	agagccatyt	gatttaaaaa	gcaaattgca	taatattgag	cttyggggagc	360
tgatatttga	gcggaagagt	agcctttteta	cttcaccaga	cacaactccc	tttcatattg	420
ggatgttnac	naaagtwatg	tctctwacag	atgggatgct	tttgtggcaa	ttctgttctg	480
aggatctccc	agttttattta	ccacttgcac	aagaaggcgt	tttcttcttc	aggc	534

&lt;210&gt; 188

&lt;211&gt; 761

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (761)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 188

agaaaccagt	atctctnaaa	acaacctctc	ataccttggtg	gacctaat	ttgtgtgcgtg	60
tggtgtgtgcg	cgcattattat	atagacaggc	acatcttttt	tactttttgta	aaagcttatg	120
cctcttttgg	atctatatct	gtgaaagttt	taatgatctg	ccataatgtc	ttggggacct	180

```

ttgtcttctg tgtaaattggt actagagaaa acacctatnt tatgagtcaa tctagttngt      240
tttattcgac atgaaggaaa tttccagatn acaacactna caaactctcc ctkgackarg      300
ggggacaaaag aaaagcaaaa ctgamcataa raaacaatwa cctggtgaga arttgcataa      360
acagaaatwr ggtagtatat tgaarnacag catcattaaa rmgttwtktt wttctccctt      420
gcaaaaaaca tgtaacngact tcccgttgag taatgccaaag ttgttttttt tatnataaaa      480
cttgcccttc attacatggt tnaaagtggg gtgggtggggc aaaatattga aatgatggaa      540
ctgactgata aagctgtaca aataagcagt gtgcctaaca agcaacacag taatgttgac      600
atgcttaatt cacaaatgct aatttcatta taaatgtttg ctaaaataca ctttgaacta      660
tttttctgtn ttcccagagc tgagatntta gattttatgt agtatnaagt gaaaaantac      720
gaaaataata acattgaaga aaananaaaa aaaaaaaaaa a                                761

```

&lt;210&gt; 189

&lt;211&gt; 482

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (482)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 189

```

tttttttttt ttgtccgatn ctactatttt attgcaggan gtgggggtgt atgcaccgca      60
caccgggggt atnagaagca agaaggaagg agggagggca cagccccttg ctgagcaaca      120
aagccgcctg ctgcccttc tgtctgtctc ctggtgcagg cacatgggga gaccttcccc      180
aaggcagggg ccaccagtcc aggggtggga atacaggggg tgggangtgt gcataagaag      240
tgataggcac aggccaccgc gtacagaccc ctcggtcctt gacaggtnga ttctgaccag      300
gtcattgtgc cctgccccagg cacagcgtn atctggaaaa gacagaatgc ttctcttttc      360
aaatttggtc ngtcattgaa ngggcanttt tccaanttng gctnggtcct ggtacncttg      420
gttcggccca gctccncgtc caaaaantat tcaccennct ccnaattgct tgcnggnccc      480
cc

```

&lt;210&gt; 190

&lt;211&gt; 471

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (471)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 190

```

tttttttttt ttttaaaaca gtttttcaca acaaaattta ttagaagaat agtggttttg      60
aaaactctcg catccagtga gaactaccat acaccacatt acagctngga atgtnctcca      120
aatgtctggt caaatgatac aatggaacca ttcaatctta cacatgcacg aaagaacaag      180
cgcttttgac atacaatgca caaaaaaaaaa aggggggggg gaccacatgg attaaaattt      240
taagtactca tcacatacat taagacacag ttctagtcca gtcnaaaatc agaactgcnt      300
tgaaaaattt catgtatgca atccaaccaa agaacttnat tgggtgatcat gantnctcta      360
ctacatcnac cttgatcatt gccaggaacn aaaagttnaa ancacnngt acaaaaanaa      420
tctgtaattn anttcaacct ccgtacngaa aaatnttntt tataactcc c                                471

```

&lt;210&gt; 191

&lt;211&gt; 402

&lt;212&gt; DNA



<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(402)

<223> n = A,T,C or G

<400> 191

gagggattga	aggtctgttc	tastgtcggm	ctgttcagcc	accaactcta	acaagttgct	60
gtcttccact	cactgtctgt	aaagcttttta	acccagacwg	tatcttcata	aatagaacaa	120
attcttcacc	agtcacatct	tctaggacct	ttttggattc	agttagtata	agctcttcca	180
cttcctttgt	taagacttca	tctggtaaag	tcttaagttt	tgtagaaagg	aattyaattg	240
ctcgttctct	aacaatgtcc	tctccttgaa	gtatttggct	gaacaacca	cctaaagtcc	300
ctttgtgcat	ccattttaaa	tataactta	agggcattgk	tnactagggt	taaattctgc	360
aagagtcac	tgtctgcaaa	agttgcgtta	gtatatctgc	ca		402

<210> 192

<211> 601

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(601)

<223> n = A,T,C or G

<400> 192

gagctcggat	ccaataatct	ttgtctgagg	gcagcacaca	tatncagtgc	catggnaact	60
ggtctacccc	acatgggagc	agcatgccgt	agntatataa	ggtcattccc	tgagtcagac	120
atgcytyttt	gaytaccgtg	tgccaagtgc	tggtgattct	yaacacacyt	ccatcccgt	180
cttttgtgga	aaaactggca	cttkctctgga	actagcarga	catcacttac	aaattcaccc	240
acgagacact	tgaaaggtgt	aacaaagcga	ytcttgcatt	gctttttgtc	cctccggcac	300
cagttgtcaa	tactaaccg	ctggtttgcc	tccatcacat	ttgtgatctg	tagctctgga	360
tacatctcct	gacagtactg	aagaacttct	tcttttgttt	caaaagcacc	tcttgggtgcc	420
tgttggatca	ggttcccat	tcccagtcyg	aatgttcaca	tggtcatatt	wacttcccac	480
aaaacattgc	gatttgaggc	tcagcaacag	caaatcctgt	tccggcattg	gctgcaagag	540
cctcgatgta	gccggccagc	gccaaaggcag	gcgcgcgtgag	ccccaccagc	agcagaagca	600
g						601

<210> 193

<211> 608

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(608)

<223> n = A,T,C or G

<400> 193

atacagccca	natccccacca	cgaagatgcg	cttgttgact	gagaacctga	tgcggtcact	60
ggtcccgcgtg	tagccccagc	gactctccac	ctgctggaag	cggttgatgc	tgcaactcytt	120
cccaacgcag	gcagmagcgg	gscgggtcaa	tgaactccay	tcgtggcttg	gggtkgacgg	180
tkaagtgcag	gaagaggctg	accacctcgc	ggtccaccag	gatgcccag	tgtgcgggac	240
ctgcagcgaa	actcctcgat	ggtcatgagc	gggaagcgaa	tgaggcccag	ggccttgccc	300

```

agaaccttcc gectgttctc tggcgtcacc tgcagctgct gccgctgaca ctccggcctcg      360
gaccagcgga caaacggcrt tgaacagccg cacctcacgg atgcccagtg tgcgcgctc      420
caggammgsc accagcgtgt ccagggtcaat gtcggtgaag ccctccgagg gtrattggcgt      480
ctgcagtgtt tttgtcgatg ttctccaggc acaggctggc cagctgcggg tcatcgaaga      540
gtcgcgcctg cgtgagcagc atgaaggcgt tgcgggctcg cagttcttct tcaggaactc      600
cacgcaat                                         608

```

```

<210> 194
<211> 392
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(392)
<223> n = A,T,C or G

```

```

<400> 194
gaacggctgg accttgccct gcattgtgct tgctggcagg gaataccttg gcaagcagyt      60
ccagtcaggag cagccccaga ccgctgccgc ccgaagctaa gcctgcctct ggccttcccc      120
tccgcctcaa tgcagaacca gtagtgggag cactgtgttt agagttaaga gtgaacactg      180
tttgatttta cttgggaatt tcctctgtta tatagctttt cccaatgcta atttccaaac      240
aacaacaaca aaataacatg tttgcctgtt aagtgtata aaagtaggtg attctgtatt      300
taaagaaaat attactgtta catatactgc ttgcaatttc tgtatttatt gktncsttgg      360
aaataaatat agttattaaa ggttgtcant cc                                         392

```

```

<210> 195
<211> 502
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(502)
<223> n = A,T,C or G

```

```

<400> 195
ccsttkgagg ggatkaggkyc cagttyccga gtggaagaaa caggccagga gaagtgcgtg      60
ccgagctgag gcagatgttc ccacagtgc cccagagcc stgggstata gtytctgacc      120
cctcncaagg aaagaccacs ttctggggac atgggctgga gggcaggacc tagaggcacc      180
aaggggaagg cccattccgg ggstgttccc cgaggaggaa gggaaggggc tctgtgtgcc      240
ccccasgagg aagaggccct gagtcctggg atcagacacc ctttcacgtg tatccccaca      300
caaatgcaag ctcaccaagg tcccctctca gtccccttcc stacaccctg amcggccact      360
gscscacacc caccagagc acgccacccg ccatggggar tgtgctcaag gartcgcnng      420
gcarcgtgga catctngtcc cagaaggggg cagaatctcc aatagangga ctgarcmstt      480
gctnanaaaa aaaaanaaaa aa                                         502

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```

<210> 196
<211> 665
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(665)

```

<223> n = A,T,C or G

<400> 196

ggttacttgg	tttcattgcc	accacttagt	ggatgtcatt	tagaaccatt	ttgtctgctc	60
cctctggaag	ccttgccgag	agcggacttt	gtaattgttg	gagaataact	gctgaatttt	120
wagctgtttk	gagttgatts	gcaccactgc	accacaact	tcaatatgaa	aacyawttga	180
actwatttat	tatcttgtga	aaagtataac	aatgaaaatt	ttgttcatac	tgtattkatc	240
aagtatgatg	aaaagcaawa	gatatatatt	cttttattat	gttaaattat	gattgccatt	300
attaatcggc	aaaatgtgga	gtgtatgttc	ttttcacagt	aatatatgcc	ttttgtaact	360
tcacttggtt	attttattgt	aaatgartta	caaaattctt	aatttaagar	aatgggatgt	420
watattttat	tcattaattt	ctttcctkgt	ttacgtwaat	tttgaaaaga	wtgcatgatt	480
tcttgacaga	aatcgatctt	gatgctgtgg	aagtagtttg	accacatcc	ctatgagttt	540
ttcttagaat	gtataaaggt	tgtagcccat	cnaacttcaa	agaaaaaat	gaccacatac	600
tttgcaatca	ggctgaaatg	tggcatgctn	ttctaattcc	aactttataa	actagcaaan	660
aagtg						665

<210> 197

<211> 492

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(492)

<223> n = A,T,C or G

<400> 197

ttttnttttt	ttttttttgc	aggaaggatt	ccattttattg	tggatgcatt	ttcacaatat	60
atgtttattg	gagcgatcca	ttatcagtga	aaagtatcaa	gtgtttataa	natttttagg	120
aaggcagatt	cacagaacat	gctngtcngc	ttgcagtttt	acctcgtana	gatnacagag	180
aattatagtc	naaccagtaa	acnaggaatt	tacttttcaa	aagattaaat	ccaaactgaa	240
caaaatttcta	ccctgaaact	tactccatcc	aaatattgga	ataanagtca	gcagtgtatc	300
attctcttct	gaactttaga	ttttctagaa	aaatatgtaa	tagtgatcag	gaagagctct	360
tgttcaaaaag	tacaacnaag	caatgttccc	ttaccatagg	ccttaattca	aactttgatc	420
catttcactc	ccatcacggg	agtcaatgct	acctgggaca	cttgtatttt	gttcatnctg	480
ancntggctt	aa					492

<210> 198

<211> 478

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(478)

<223> n = A,T,C or G

<400> 198

tttnttttgn	atttcantct	gtannaanta	ttttcattat	gtttattana	aaaatatnaa	60
tgtntccacn	acaaatcatn	ttacntnagt	aagaggccan	ctacattgta	caacatacac	120
tgagtatatt	ttgaaaagga	caagttttaa	gtanacncat	attgccganc	atancacatt	180
tatacatggc	ttgattgata	tttagcacag	canaaaactga	gtgagttacc	agaaanaaat	240
nataatgtgc	aatcngattt	aagatacaaa	acagatcccta	tggtacatan	catcntgtag	300
gagttgtggc	tttatgttta	ctgaaagtca	atgcagttcc	tgtacaaaga	gatggccgta	360
agcattctag	tacctctact	ccatgggttaa	gaatcgtaca	cttatgttta	catatgtnc	420

gggtaagaat tgtgttaagt naanttatgg agaggtccan gagaaaaatt tgatncaa 478

<210> 199

<211> 482

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(482)

<223> n = A,T,C or G

<400> 199

agtgacttgt	cctccaacaa	aaccccttga	tcaagtttgt	ggcactgaca	atcagaccta	60
tgctagtcc	tgtcatctat	tcgctactaa	atgcagactg	gaggggacca	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaatctatt	cctacttgta	cggactttga	180
agtgattcag	tttccctctac	ggatgagaga	ctggctcaag	aatatcctca	tgagcttcta	240
tgaagccnac	tctgaacacg	ctggttatct	nagatgagaa	ncagagaaat	aaagtcnaga	300
aaatttacct	ggangaaaag	aggctttngg	ctggggacca	tcccattgaa	ccttctctta	360
anggacttta	agaanaaaact	accacatgtn	tgtngtatcc	tggtgccngg	ccgtttantg	420
aacntngacn	ncacccttnt	ggaatanant	cttgacngcn	tcctgaactt	gtcctctctg	480
ga						482

<210> 200

<211> 270

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(270)

<223> n = A,T,C or G

<400> 200

cggccgcaag	tgcaactcca	gctggggccg	tgccgacgaa	gattctgcca	gcagttggtc	60
cgactgcgac	gacggcgggc	gcgacagtcg	caggtgcagc	gcggggcgct	ggggctctgc	120
aaggctgagc	tgacgccgca	gaggtcgtgt	cacgtcccac	gaccttgacg	ccgtcgggga	180
cagccggaac	agagcccggg	gaangcggga	ggcctcgggg	agccctcggg	gaagggcggc	240
ccgagagata	cgcaggtgca	gggtggccgcc				270

<210> 201

<211> 419

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(419)

<223> n = A,T,C or G

<400> 201

tttttttttt	ttttggaatc	tactgcgagc	acagcaggtc	agcaacaagt	ttattttgca	60
gctagcaagg	taacagggta	gggcatggtt	acatgttcag	gtcaacttcc	tttgtcgtgg	120
ttgattgggt	tgtctttatg	ggggcggggt	ggggtagggg	aaancgaagc	anaantaaca	180
tggagtgggt	gcaccctccc	tgtagaacct	ggttacnaaa	gcttggggca	gttcacctgg	240

tctgtgaccg	tcattttctt	gacatcaatg	ttattagaag	tcaggatata	ttttagagag	300
tccactgtnt	ctggagggag	attagggttt	cttgccaana	tccaancaa	atccacntga	360
aaaagttgga	tgatncangt	acngaatacc	ganggcatan	ttctcatant	cgggtggcca	419

&lt;210&gt; 202

&lt;211&gt; 509

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(509)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 202

tttntttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tggcacttaa	tccattttta	tttcaaaatg	tctacaaant	ttnaatncnc	cattatacng	120
gtnattttnc	aaaatctaaa	nntttattcaa	atntnagcca	aantccttac	ncaaatttnaa	180
tacnncnaaa	aatcaaaaaat	atacntntct	ttcagcaaac	ttngttacat	aaattaaaaa	240
aatatatacg	gctgggtgtt	tcaaagtaca	attatcttaa	cactgcaaac	atnttttnaa	300
ggaactaaaa	taaaaaaaaa	cactnccgca	aagggttaaag	ggaacaacaa	attcntttta	360
caacancnnc	nattataaaa	atcatacttc	aaatcttagg	ggaatatata	cttcacacng	420
ggaatcttaac	ttttactnca	ctttgtttat	ttttttanaa	ccattgtntt	gggccaacaa	480
caatggnaat	nccnccnnc	tggactagt				509

&lt;210&gt; 203

&lt;211&gt; 583

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(583)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 203

tttttttttt	ttttttttga	ccccctctt	ataaaaaaca	agttaccatt	ttatttttact	60
tacacataatt	tattttataa	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgccttaga	tacataattc	ttaggaatta	gcttaaaatc	tgccataaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	atttttgact	cttgtaaaac	atccaaattc	240
atttttcttg	tctttaaaat	tatctaattc	ttccattttt	tccctattcc	aagtcaattt	300
gcttctctag	cctcatttcc	tagctcttat	ctactattag	taagtgggctt	ttttcctaaa	360
agggaaaaca	ggaagagana	atggcacaca	aaacaaacat	tttatattca	tatttctacc	420
tacgttaata	aaatagcatt	ttgtgaagcc	agctcaaaag	aaggcttaga	tccttttatg	480
tccatttttag	tcactaaacg	atatacnaag	tgccagaatg	caaaagggtt	gtgaacattt	540
attcaaaagc	taatataaga	tatttcacat	actcatcttt	ctg		583

&lt;210&gt; 204

&lt;211&gt; 589

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(589)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 204

ttttttttnt	tttttttttt	tttttttntc	ttcttttttt	ttganaatga	ggatcgagtt	60
tttcactctc	tagatagggc	atgaagaaaa	ctcatctttc	cagcttttaa	ataacaatca	120
aatctcttat	gctatatcat	attttaagtt	aaactaatga	gtcactggct	tatcttctcc	180
tgaaggaaat	ctgttcattc	ttctcattca	tatagttata	tcaagtacta	ccttgcatat	240
tgagaggttt	ttcttctcta	tttacacata	tatttccatg	tgaatttgta	tcaaaccctt	300
attttcatgc	aaactagaaa	ataatgtntt	cttttgcata	agagaagaga	acaatatnag	360
cattacaaaa	ctgctcaaat	tgtttggtta	gnttatccat	tataattagt	tnggcaggag	420
ctaatacaaa	tcacattttac	ngacnagcaa	taataaaaact	gaagtaccag	ttaaatatcc	480
aaaataatta	aaggaacatt	tttagcctgg	gtataattag	ctaattcact	ttacaagcat	540
ttattnagaa	tgaattcaca	tgttattatt	cntagccca	acacaatgg		589

&lt;210&gt; 205

&lt;211&gt; 545

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (545)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 205

tttttntttt	ttttttcagt	aataatcaga	acaatattta	tttttatatt	taaaattcat	60
agaaaagtgc	cttacattta	ataaaagttt	gtttctcaaa	gtgatcagag	gaattagata	120
tngtcttgaa	caccaatatt	aatttgagga	aaatacacca	aaatacatta	agtaaattat	180
ttaagatcat	agagcttyta	agtgaaaaga	taaaatttga	cctcagaaac	tctgagcatt	240
aaaaatccac	tattagcaaa	taaattacta	tggacttctt	gctttaattt	tgtgatgaat	300
atgggggtgc	actggtaaac	caacacattc	tgaaggatac	attacttagt	gatagattct	360
tatgtacttt	gctanatnac	gtggatatga	gttgacaagt	ttctctttct	tcaatctttt	420
aaggggcnag	ngaaatgagg	aagaaaagaa	aaggattacg	catactgttc	tttctatngg	480
aaggattaga	tatgtttcct	ttgccaatat	taaaaaaata	ataatgttta	ctactagtga	540
aacc						545

&lt;210&gt; 206

&lt;211&gt; 487

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (487)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 206

tttttttttt	tttttttagtc	aagtttctna	tttttattat	aattaaagtc	ttgggtcattt	60
catttattag	ctctgcaact	tacatattta	aattaaagaa	acgttnttag	acaactgtna	120
caatttataa	atgtaagggtg	ccattattga	gtanatatat	tcctccaaga	gtggatgtgt	180
cccttctccc	accaactaat	gaancagcaa	cattagttta	attttattag	tagatnatac	240
actgctgcaa	acgctaattc	tcttctccat	ccccatgtng	atattgtgta	tatgtgtgag	300
ttggtnagaa	tgcatcanca	atctnacaat	caacagcaag	atgaagctag	gcntgggctt	360
tcggtgaaaa	tagactgtgt	ctgtctgaat	caaatgatct	gacctatcct	cggtggcaag	420
aactcttcga	accgcttcct	caaaggcngc	tgccacattt	gtggcntctn	ttgcacttgt	480

ttcaaaa

487

<210> 207  
 <211> 332  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(332)  
 <223> n = A,T,C or G

&lt;400&gt; 207

tgaattggct	aaaagactgc	atTTTTanaa	ctagcaactc	ttatttcttt	cctttaaaaa	60
tacatagcat	taaatcccaa	atcctattta	aagacctgac	agcttgagaa	ggtcactact	120
gcatttatag	gaccttctgg	tggttctgct	gttacntttg	aantctgaca	atccttgana	180
atctttgcat	gcagaggagg	taaaagggtat	tggattttca	cagaggaana	acacagcgca	240
gaaatgaagg	ggccaggctt	actgagcttg	tccactggag	ggctcatggg	tgggacatgg	300
aaaagaaggc	agcctaggcc	ctggggagcc	ca			332

<210> 208  
 <211> 524  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(524)  
 <223> n = A,T,C or G

&lt;400&gt; 208

agggcggtgg	gcggagggcg	ttactgtttt	gtctcagtaa	caataaatac	aaaaagactg	60
gttgtgttcc	ggccccatcc	aaccacgaag	ttgatttctc	ttgtgtgcag	agtgactgat	120
tttaaaggac	atggagcttg	tcacaatgtc	acaatgtcac	agtgtgaagg	gcacactcac	180
tcccgcgtga	ttcacattta	gcaaccaaca	atagctcatg	agtccatact	tgtaaatact	240
tttggcagaa	tacttnttga	aacttgcaga	tgataactaa	gatccaagat	atttcccaaa	300
gtaaatagaa	gtgggtcata	atattaatta	cctgttcaca	tcagcttcca	tttacaagtc	360
atgagcccag	acactgacat	caaactaagc	ccacttagac	tcctcaccac	cagtctgtcc	420
tgatcatcaga	caggaggctg	tcaccttgac	caaattctca	ccagtcaatc	atctatccaa	480
aaaccattac	ctgatccact	tccggtaatg	caccaccttg	gtga		524

<210> 209  
 <211> 159  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 209

gggtgaggaa	atccagagtt	gccatggaga	aaattccagt	gtcagcattc	ttgctccttg	60
tggccctctc	ctacactctg	gccagagata	ccacagtcaa	acctggagcc	aaaaaggaca	120
caaaggactc	tcgacccaaa	ctgccccaga	ccctctcca			159

<210> 210  
 <211> 256  
 <212> DNA  
 <213> Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(256)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 210

actccctggc agacaaaggc agaggagaga gctctgttag ttctgtgttg ttgaactgcc	60
actgaatttc ttccacttg gactattaca tgccanttga gggactaatg gaaaaacgta	120
tggggagatt ttanccaatt tangtntgta aatggggaga ctggggcagg cgggagagat	180
ttgcaggggtg naaatgggan ggctggtttg ttanatgaac agggacatag gaggtaggca	240
ccaggatgct aaatca	256

&lt;210&gt; 211

&lt;211&gt; 264

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(264)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 211

acattgtttt tttagataa agcattgaga gagctctcct taacgtgaca caatggaagg	60
actggaacac ataccacat ctttgttctg agggataatt ttctgataaa gtcttgctgt	120
atattcaagc acatatgtta tatattattc agttccatgt ttatagccta gttaaggaga	180
ggggagatac attcngaaag aggactgaaa gaaatactca agtnggaaaa cagaaaaaga	240
aaaaaaggag caaatgagaa gcct	264

&lt;210&gt; 212

&lt;211&gt; 328

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(328)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 212

acccaaaaat ccaatgctga atatttggtc tcattattcc canattcttt gattgtcaaa	60
ggatttaatg ttgtctcagc ttgggcactt cagttaggac ctaaggatgc cagccggcag	120
gtttatatat gcagcaacaa tattcaagcg cgacaacagg ttattgaact tgcccgccag	180
ttnaatttca ttcccattga cttgggatcc ttatcatcag ccagagagat tgaaaattta	240
cccctacnac tctttactct ctgganaggg ccagtggtgg tagctataag cttggccaca	300
tttttttttc ctttattcct ttgtcaga	328

&lt;210&gt; 213

&lt;211&gt; 250

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature



&lt;222&gt; (1)...(250)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 213

acttatgagc agagcgacat atccnagtgt agactgaata aaactgaatt ctctccagtt	60
taaagcattg ctactgaag ggatagaagt gactgccagg agggaaagta agccaaggct	120
cattatgcca aagganatat acatttcaat tctccaaact tcttcctcat tccaagagtt	180
ttcaatattt gcatgaacct gctgataanc catgttaana aacaaatata tctctnacct	240
tctcatcggt	250

&lt;210&gt; 214

&lt;211&gt; 444

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(444)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 214

accagaatc caatgctgaa tatttggtt cattattccc agattctttg attgtcaaag	60
gatttaattg tgtctcagct tgggcacttc agttaggacc taaggatgcc agccggcagg	120
tttatatatg cagcaacaat attcaagcgc gacaacagggt tattgaactt gcccgccagt	180
tgaatttcat tcccattgac ttgggatact tatcatcagc canagagatt gaaaatttac	240
ccctacgact ctttactctc tggagagggc cagtgggtgt agctataagc ttggccacat	300
ttttttttcc tttattcctt tgtcagagat gcgattcatc catatgctan aaaccaacag	360
agtgactttt acaaaaattcc tataganatt gtgaataaaa ccttacctat agttgccatt	420
actttgctct ccctaataata cctc	444

&lt;210&gt; 215

&lt;211&gt; 366

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(366)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 215

acttatgagc agagcgacat atccaagtgt anactgaata aaactgaatt ctctccagtt	60
taaagcattg ctactgaag ggatagaagt gactgccagg agggaaagta agccaaggct	120
cattatgcca aagganatat acatttcaat tctccaaact tcttcctcat tccaagagtt	180
ttcaatattt gcatgaacct gctgataagc catgttgaga aacaaatata tctctgacct	240
tctcatcggt aagcagaggc tgtaggcaac atggaccata gcgaanaaaa aacttagtaa	300
tccaagctgt tttctacact gtaaccagggt ttccaaccaa ggtggaaatc tcctatactt	360
ggtgcc	366

&lt;210&gt; 216

&lt;211&gt; 260

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

<221> misc\_feature  
 <222> (1)...(260)  
 <223> n = A,T,C or G

<400> 216  
 ctgtataaac agaactccac tgcangaggg agggccgggc caggagaatc tccgcttgtc 60  
 caagacaggg gcctaaggag ggtctccaca ctgctnntaa gggctnttnc atttttttat 120  
 taataaaaag tnnaaaaggc ctcttctcaa cttttttccc ttnggctgga aaatttaaaa 180  
 atcaaaaatt tcctnaagtt ntcaagctat catatatact ntatcctgaa aaagcaacat 240  
 aattcttctt tccttctttt 260

<210> 217  
 <211> 262  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(262)  
 <223> n = A,T,C or G

<400> 217  
 acctacgtgg gtaagtttan aaatgttata atttcaggaa naggaacgca tataattgta 60  
 tcttgccat aattttctat tttaataagg aaatagcaaa ttgggggtggg gggaatgtag 120  
 ggcatctac agtttgagca aaatgcaatt aaatgtggaa ggacagcact gaaaaatttt 180  
 atgaataatc tgtatgatta tatgtctcta gagtagattt ataattagcc acttacccta 240  
 atatccttca tgcttgtaaa gt 262

<210> 218  
 <211> 205  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(205)  
 <223> n = A,T,C or G

<400> 218  
 accaaggtgg tgcattaccg gaantggatc aangacacca tcgtggccaa cccctgagca 60  
 cccctatcaa ctcccttttg tagtaaaactt ggaaccttgg aaatgaccag gccaaagactc 120  
 aggctcccc agttctactg acctttgtcc ttangtntna ngtccagggt tgctaggaaa 180  
 anaaatcagc agacacaggt gtaaa 205

<210> 219  
 <211> 114  
 <212> DNA  
 <213> Homo sapien

<400> 219  
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 accacgaagt tgatttctct tgtgtgcaga gtgactgatt ttaaaggaca tgga 114

<210> 220  
 <211> 93

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 220

actagccagc acaaaaggca gggtagcctg aattgctttc tgctctttac atttctttta 60  
 aaataagcat ttagtgctca gtccctactg agt 93

&lt;210&gt; 221

&lt;211&gt; 167

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(167)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 221

actangtgca ggtgcgacaca aatatttgct gatattccct tcatcttgga ttccatgagg 60  
 tcttttgccc agcctgtggc tctactgtag taagtctctg ctgatgagga gccagnatgc 120  
 cccccactac ctccctgac gctccccana aatcacccaa cctctgt 167

&lt;210&gt; 222

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 222

agggcgtggt gcggagggcg gtactgacct cattagtagg aggatgcatt ctggcacccc 60  
 gttcttcacc tgtcccccaa tccttaaaag gccatactgc ataaagtcaa caacagataa 120  
 atgtttgctg aattaaagga tggatgaaaa aaattaataa tgaatttttg cataatccaa 180  
 tttctctttt tatatttcta gaagaagttt ctttgagcct attagatccc gggaatcttt 240  
 taggtgagca tgattagaga gctttaggt tgcttttaca tatactctggc atatttgagt 300  
 ctcgtatcaa aacaatagat tggtaaagggt ggtattattg tattgataag t 351

&lt;210&gt; 223

&lt;211&gt; 383

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(383)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 223

aaaacaaaca acaaaaaaaa acaattcttc attcagaaaa attatcttag ggactgatat 60  
 tggttaattat ggtcaattta atwrtttkt ggggcatttc cttacattgt cttgacaaga 120  
 taaaaatgtc tgtgccaaaa ttttgatttt tatttgagaga cttcttatca aaagtaatgc 180  
 tgccaaagga agtctaagga attagtagtg ttcccmtcac ttgtttggag tgtgtattc 240  
 taaaagattt tgatttcctg gaatgacaat tatattttta ctttggtggg ggaaanagtt 300  
 ataggaccac agtcttcact tctgatactt gtaaattaat cttttattgc acttgttttg 360  
 accattaagc tatatgttta aaa 383

&lt;210&gt; 224

<211> 320  
 <212> DNA  
 <213> Homo sapien

<400> 224  
 cccctgaagg cttcttggtta gaaaatagta cagttacaac caataggaac aacaaaaaga 60  
 aaaagtttgt gacattgtag tagggagtgt gtacccttca cccccatca aaaaaaaaaat 120  
 ggatacatgg ttaaaggata raagggaat attttatcat atgttctaaa agagaaggaa 180  
 gagaaaatac tactttctcr aaatggaagc ccttaaagggt gctttgatac tgaaggacac 240  
 aaatgtggcc gtccatctc ctttaragtt gcatgacttg gacacggtaa ctgttgacgt 300  
 tttaractcm gcattgtgac 320

<210> 225  
 <211> 1214  
 <212> DNA  
 <213> Homo sapien

<400> 225  
 gaggactgca gcccgcactc gcagccctgg caggcggcac tggcatgga aaacgaattg 60  
 ttctgctcgg gcgtcctggt gcatccgcag tgggtgctgt cagccgcaca ctgtttccag 120  
 aactcctaca ccatcgggct gggcctgcac agtcttgagg ccgaccaaga gccagggagc 180  
 cagatgggtgg aggccagcct ctccgtacgg caccagagt acaacagacc cttgctcgct 240  
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 atcagcattg cttcgcagtg ccctaccgcg gggaactctt gcctcgtttc tggctgggggt 360  
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 gaggaggtct gcagtaagct ctatgaccgg ctgtaccacc ccagcatgtt ctgcgccggc 480  
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 ggggtacttg agggccttgt gtctttcgga aaagccccgt gtggccaagt tggcgtgcca 600  
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 taactctggg gactgggaac ccatgaaatt gacccccaaa tacatcctgc ggaagggaatt 720  
 caggaatatc tggtcccagc ccctcctccc tcaggcccag gagtccaggc cccagagccc 780  
 tcctccctca aaccaagggt acagatcccc agccccctct ccctcagacc caggagtcca 840  
 gacccccag cccctcctcc ctccagacca ggagtccagc ccctcctccc tcagaccagc 900  
 gagtccagac cccccagccc ctccctccct agaccagggt gtccaggccc ccaaccctc 960  
 ctccctcaga ctccagaggt caagccccca accctcctt cccagagccc agagggtccag 1020  
 gtccagccc ctccctccct agacccagcg gtccaatgcc acctagactc tcctgtaca 1080  
 cagtgcccc ttgtggcacg ttgacccaac cttaccagtt ggtttttcat tttttgtccc 1140  
 tttccctag atccagaaat aaagtctaag agaagcgcaa aaaaaaaaaa aaaaaaaaaa 1200  
 aaaaaaaaaa aaaa 1214

<210> 226  
 <211> 119  
 <212> DNA  
 <213> Homo sapien

<400> 226  
 acccagtatg tgcagggaga cggaacccca tgtgacagcc cactccacca gggttcccaa 60  
 agaacctggc ccagtcataa tcattcatcc tgacagtggc aataatcacg ataaccagt 119

<210> 227  
 <211> 818  
 <212> DNA  
 <213> Homo sapien

<400> 227

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tttttgctac	atatggggtc	ccttttcatt	ctttgcaaaa	acactgggtt	ttctgagaac	120
acggacggtt	cttagcacia	tttgtgaaat	ctgtgtaraa	ccgggctttg	caggggagat	180
aattttcctc	ctctggagga	aaggtgggtg	ttgacaggca	gggagacagt	gacaaggcta	240
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agggcctcct	caggagcagt	ccaagagttt	tcaaagataa	cgtgacaact	accatctaga	420
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acctgctggc	tgtcttggtg	tgcgcccagc	ctttgagagg	ccactacccc	atgaacttct	540
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gacaggctct	gccctcaagc	cggctgaggg	cagcaaccac	tctcctcccc	tttctcacgc	660
aaagccattc	ccacaaatcc	agaccatacc	atgaagcaac	gagacccaaa	cagtttggct	720
caagaggata	tgaggactgt	ctcagcctgg	ctttgggctg	acaccatgca	cacacacaag	780
gtccacttct	aggttttcag	cctagatggg	agtcgtgt			818

&lt;210&gt; 228

&lt;211&gt; 744

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 228

actggagaca	ctgttgaact	tgatcaagac	ccagaccacc	ccaggtctcc	ttcgtgggat	60
gtcatgacgt	ttgacatacc	tttggaaacga	gcctcctcct	tggaaagatgg	aagaccgtgt	120
tcgtggccga	cctggcctct	cctggcctgt	ttcttaagat	gcggagtcac	atttcaatgg	180
taggaaaagt	ggcttcgtaa	aatagaagag	cagtcactgt	ggaactacca	aatggcgaga	240
tgctcgggtg	acattggggg	gctttgggat	aaaagattta	tgagccaact	attctctggc	300
accagattct	aggccagttt	gttccactga	agcttttccc	acagcagtcc	acctctgcag	360
gctggcagct	gaatggcttg	ccggtggctc	tgtggcaaga	tcacactgag	atcgatgggt	420
gagaaggcta	ggatgcttgt	ctagtgttct	tagctgtcac	gttggctcct	tccaggttgg	480
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ccgtggatatg	ccttggccca	ttccagcagt	cccagttatg	catttcaagt	ttgggggttg	600
ttcttttcgt	taatgttctt	ctgtgttgtc	agctgtcttc	atttcctggg	ctaagcagca	660
ttgggagatg	tggaccagag	atccactcct	taagaaccag	tggcgaaaga	cactttcttt	720
cttcaactctg	aagtagctgg	tggt				744

&lt;210&gt; 229

&lt;211&gt; 300

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 229

cgagtctggg	ttttgtctat	aaagtttgat	ccctcctttt	ctcatccaaa	tcatgtgaac	60
cattacacat	cgaaataaaa	gaaagggtgg	agacttgccc	aacgccaggc	tgacatgtgc	120
tgcagggttg	ttgtttttta	attattattg	ttagaaacgt	caccacagct	ccctgttaat	180
ttgtatgtga	cagccaactc	tgagaagggtc	ctatttttcc	acctgcagag	gatccagctc	240
cactagggtc	ctccttgccc	tcacactgga	gtctccgcca	gtgtgggtgc	ccactgacat	300

&lt;210&gt; 230

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 230

cagcagaaca	aatacaata	tgaagagtgc	aaagatctca	taaaatctat	gctgaggaat	60
gagcgacagt	tcaaggagga	gaagcttgca	gagcagctca	agcaagctga	ggagctcagg	120

caatataaag	tccctgggttca	cactcaggaa	cgagagctga	cccagttaag	ggagaagttg	180
cggaagggga	gagatgcctc	cctctcattg	aatgagcatc	tccaggccct	cctcactccg	240
gatgaaccgg	acaagtccca	ggggcaggac	ctccaagaaa	cagacctcgg	ccgcgaccac	300
g						301

&lt;210&gt; 231

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 231

gcaagcacgc	tggcaaatct	ctgtcaggtc	agctccagag	aagccattag	tcatttttagc	60
caggaactcc	aagtccacat	ccttggcaac	tggggacttg	cgcagggttag	ccttgaggat	120
ggcaacacgg	gactttctcat	caggaagtgg	gatgtagatg	agctgatcaa	gacggccagg	180
tctgaggatg	gcaggatcaa	tgatgtcagg	ccggttggtg	ccgccaatga	tgaacacatt	240
tttttttg	gacatgccat	ccattttctgt	caggatctgg	ttgatgactc	ggtcagcagc	300
c						301

&lt;210&gt; 232

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 232

agtaggtatt	tcgtgagaag	ttcaacacca	aaactggaac	atagttctcc	ttcaagtgtt	60
ggcgacagcg	gggcttcctg	attctggaat	ataactttgt	gtaaattaac	agccacctat	120
agaagagtcc	atctgctgtg	aaggagagac	agagaactct	gggttccgtc	gtcctgtcca	180
cgtgctgtac	caagtgtctg	tgccagcctg	ttacctgttc	tcactgaaaa	tctggctaata	240
gctcttgtgt	atcacttctg	attctgacaa	tcaatcaatc	aatggcctag	agcactgact	300
g						301

&lt;210&gt; 233

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 233

atgactgact	tcccagtaag	gctctctaag	gggtaagtag	gaggatccac	aggatttgag	60
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cctagaagtt	acagagcatc	tagctgggtc	gctggcaccc	ctggcctcac	acagactccc	180
gagtagctgg	gactacaggc	acacagtcac	tgaagcaggc	cctgttagca	attctatgcg	240
tacaaattaa	catgagatga	gtagagactt	tattgagaaa	gcaagagaaa	atcctatcaa	300
c						301

&lt;210&gt; 234

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 234

aggctctaca	catcgagact	catccatgat	tgatatgaat	ttaaaaatta	caagcaaaga	60
cattttattc	atcatgatgc	tttcttttgt	ttcttctttt	cgttttcttc	tttttctttt	120
tcaatttcag	caacatactt	ctcaaattct	tcaggattta	aaatcttgag	ggattgatct	180
cgcctcatga	cagcaagttc	aatgtttttg	ccacctgact	gaaccacttc	caggagtgcc	240
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t

301

<210> 235  
 <211> 283  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 235

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aattccctca tcttttaggg aatcatttac caggtttggg gaggattcag acagctcagg	120
tgctttcact aatgtctctg aacttctgtc cctctttgtt catggatagt ccaataaata	180
atgttatctt tgaactgatg ctcataggag agaataaag aactctgagt gatatcaaca	240
ttagggattc aaagaaatat tagatttaag ctcacactgg tca	283

<210> 236  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 236

aggctcctcca ccaactgcct gaagcacggt taaaattggg aagaagtata gtgcagcata	60
aatactttta aatcgatcag atttccctaa cccacatgca atcttcttca ccagaagagg	120
tcggagcagc atcattaata ccaagcagaa tgcgtaatag ataaatacaa tgggtatatag	180
tgggtagacg gcttcatgag tacagtgtac tgtgggtatcg taatctggac ttggggttga	240
aagcatcgtg taccagtcag aaagcatcaa tactcgacat gaacgaatat aaagaacacc	300
a	301

<210> 237  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 237

cagtggtagt ggtgggtggac gtggcggttg tcgtgggtgcc ttttttggtg cccgtcacaa	60
actcaatttt tgttcgctcc tttttggcct tttccaattt gtccatctca attttctggg	120
ccttggctaa tgcctcatag taggagtcct cagaccagcc atggggatca aacatctcct	180
ttgggtagtt ggtgccaagc tcgtcaatgg cacagaatgg atcagcttct cgtaaactta	240
gggttccgaa attctttctt cctttggata atgtagttca tatccattcc ctcttttctc	300
t	301

<210> 238  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 238

gggcagggtt tttttttttt ttttttgatg gtgcagaccc ttgctttatt tgtctgactt	60
gttcacagtt cagccccctg ctcagaaaac caacgggcca gctaaggaga ggaggaggca	120
ccttgagact tccggagtcg aggtctctca gggttcccca gcccatcaat cattttctgc	180
acccccctgc tgggaagcag ctccctgggg ggtgggaatg ggtgactaga agggatttca	240
gtgtgggacc cagggtctgt tcttcacagt aggaggtgga agggatgact aatttcttta	300
t	301

<210> 239  
 <211> 239

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 239

ataagcagct aggggaattct ttatttagta atgtcctaac ataaaagtgc acataactgc	60
ttctgtcaaa ccatgatact gagctttgtg acaaccaga aataactaag agaaggcaaa	120
cataatacct tagagatcaa gaaacattta cacagttcaa ctgtttaaaa atagctcaac	180
attcagccag tgagtagagt gtgaatgccg gcatacacag tatacagggtc cttcaggga	239

&lt;210&gt; 240

&lt;211&gt; 300

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 240

ggtcctaata aagcagcagc ttccacattt taacgcagggt ttacgggtgat actgtccttt	60
gggatctgcc ctccagtggg acccttttaag gaagaagtgg gcccaagcta agttccacat	120
gctgggtgag ccagatgact tctgttcctt ggtcactttc ttcaatgggg cgaatggggg	180
ctgccagggt tttaaaatca tgcttcattt tgaagcacac ggtcacttca cctcctcac	240
gctgtgggtg tactttgatg aaaataccca ctttgttggc ctttctgaag ctataatgtc	300

&lt;210&gt; 241

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 241

gaggtctggt gctgaggtct ctgggctagg aagaggagtt ctgtggagct ggaagccaga	60
cctcttttga ggaaactcca gcagctatgt tgggtgtctct gaggggaatgc aacaaggctg	120
ctcctccatg tattggaaaa ctgcaaactg gactcaactg gaaggaagtg ctgctgccag	180
tgtgaagaac cagcctgagg tgacagaaac ggaagcaaac aggaacagcc agtcttttct	240
tctcctcct gtcatacggg ctctctcaag catcctttgt tgtcaggggc ctaaaaggga	300
g	301

&lt;210&gt; 242

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 242

ccgaggtcct gggatgcaac caatcactct gtttcacgtg acttttatca ccatacaatt	60
tgtggcattt cctcattttc tacattgtag aatcaagagt gtaataaat gtatatcgat	120
gtcttcaaga atatatcatt cttttttcac tagaaccat tcaaatata agtcaagaat	180
cttaatatca acaaatatat caagcaaact ggaaggcaga ataactacca taatttagta	240
taagtacca aagttttata aatcaaaagc cctaatagata accattttta gaattcaatc	300
a	301

&lt;210&gt; 243

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 243

aggtaagtcc cagtttgaag ctcaaaagat ctggatatgag catagggtca tcgacgacat	60
ggtaggcccc gctatgaaat cagagggagg cttcatctgg gcctgtaaaa actatgatgg	120



tgacgtgcag tcggactctg tggcccaagg gtatggctct ctccggcatga tgaccagcgt 180  
 gctggtttgt ccagatggca agacagtaga agcagaggct gccacggga ctgtaacccg 240  
 tcactaccgc atgttccaga aaggacagga gacgtccacc aatcccattg cttccatttt 300  
 t 301

<210> 244  
 <211> 300  
 <212> DNA  
 <213> Homo sapien

<400> 244  
 gctggtttgc aagaatgaaa tgaatgattc tacagctagg acttaacctt gaaatggaaa 60  
 gtcattgcaat cccatttgca ggatctgtct gtgcacatgc ctctgtagag agcagcattc 120  
 ccagggacct tggaaacagt tgacactgta aggtgcttgc tccccaagac acatcctaaa 180  
 aggtgttgta atggtgaaaa cgtcttcctt ctttattgcc ccttcttatt tatgtgaaca 240  
 actgtttgtc ttttgtgtat cttttttaa ctgtaaagtt caattgtgaa aatgaatatc 300

<210> 245  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 245  
 gtctgagtat ttaaaatgtt attgaaatta tccccaacca atgttagaaa agaaagaggt 60  
 tatatactta gataaaaaat gaggtgaatt actatccatt gaaatcatgc tcttagaatt 120  
 aaggccagga gatattgtca ttaatgtara cttcaggaca ctagagtata gcagccctat 180  
 gttttcaaag agcagagatg caattaaata ttgttttagca tcaaaaaggc cactcaatac 240  
 agctaataaa atgaaagacc taatttctaa agcaattctt tataatttac aaagttttaa 300  
 g 301

<210> 246  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 246  
 ggtctgtcct acaatgcctg cttcttgaaa gaagtcggca ctttctagaa tagctaaata 60  
 acctgggctt attttaaaga actatttgta gctcagattg gttttcctat ggctaaaata 120  
 agtgcttctt gtgaaaatta aataaaacag ttaattcaaa gccttgatat atgttaccac 180  
 taacaatcat actaaatata ttttgaagta caaagtttga catgctctaa agtgacaacc 240  
 caaatgtgtc ttacaaaaca cgctcctaac aaggtatgct ttacactacc aatgcagaaa 300  
 c 301

<210> 247  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 247  
 aggtcctttg gcagggtcga tggatcagag ctcaaactgg agggaaaggc atttcgggta 60  
 gcctaagagg gcgactggcg gcagcacaac caaggaaggc aagggtgttt cccccacgct 120  
 gtgtcctgtg ttcagggtcg acacacaatc ctcatgggaa caggatcacc catgcgctgc 180  
 ccttgatgat caagggtggg gcttaagtgg attaaggagg gcaagttctg ggctccttgc 240  
 cttttcaaac catgaagtca ggctctgtat ccctcctttt cctaactgat attctaacta 300  
 a 301

<210> 248  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 248  
 aggtccttgg agatgccatt tcagccgaag gactcttctw ttcggaagta caccctcact 60  
 attaggaaga ttcttagggg taatttttct gaggaaggag aactagccaa cttaagaatt 120  
 acaggaagaa agtgggttgg aagacagcca aagaaataaa agcagattaa attgtatcag 180  
 gtacattcca gcctgttggc aactccataa aaacatttca gattttaatc ccgaatttag 240  
 ctaatgagac tggatttttg ttttttatgt tgtgtgtcgc agagctaaaa actcagttcc 300  
 c 301

<210> 249  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 249  
 gtccagagga agcacctggg gctgaactag gcttgccctg ctgtgaactt gcacttggag 60  
 ccctgacgct gctgttctcc ccgaaaaacc cgaccgacct ccgcgatctc cgtcccgcgc 120  
 ccagggagac acagcagtga ctcagagctg gtcgcacact gtgcctccct cctcaccgcc 180  
 catcgtaatg aattattttg aaaattaatt ccaccatcct ttcagattct ggatggaaag 240  
 actgaatctt tgactcagaa ttgtttgctg aaaagaatga tgtgactttc ttagtcattt 300  
 a 301

<210> 250  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 250  
 ggtctgtgac aaggacttgc aggctgtggg aggcaagtga cccttaacac tacacttctc 60  
 cttatcttta ttggcttgat aaacataatt atttctaaca ctagcttatt tccagttgcc 120  
 cataagcaca tcagtacttt tctctggctg gaatagtaaa ctaaaagtatg gtacatctac 180  
 ctaaaagact actatgtgga ataatacata ctaatgaagt attacatgat ttaaagacta 240  
 caataaaaacc aaacatgctt ataacattaa gaaaaacaat aaagatacat gattgaaacc 300  
 a 301

<210> 251  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 251  
 gccgaggtcc tacatttggc ccagtttccc cctgcatcct ctccaggggc cctgcctcat 60  
 agacaacctc atagagcata ggagaactgg ttgccctggg ggcaggggga ctgtctggat 120  
 ggcaggggtc ctcaaaaatg ccactgtcac tgccaggaaa tgcttctgag cagtacacct 180  
 cattgggatc aatgaaaagc ttcaagaaat cttcaggctc actctcttga aggcccgga 240  
 cctctggagg ggggcagtgg aatcccagct ccaggacgga tcctgtcgaa aagatatcct 300  
 c 301

<210> 252  
 <211> 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 252

```

gcaaccaatc actctgtttc acgtgacttt tatcaccata caatttgtgg catttccctca    60
ttttctacat tgtagaatca agagtgtaaa taaatgtata tcgatgtctt caagaatata    120
tcatttccttt ttcactagga acccattcaa aatataagtc aagaatctta atatcaacaa    180
atatatcaag caaactggaa ggcagaataa ctaccataat ttagtataag taccctaaagt    240
tttataaatc aaaagcccta atgataacca tttttagaat tcaatcatca ctgtagaatc    300
a                                                                    301

```

&lt;210&gt; 253

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 253

```

ttccctaaga agatgttatt ttgttggggt ttgttccccc tccatctcga ttctcgtacc    60
caactaaaaa aaaaaaataa agaaaaaatg tgctgcgttc tgaaaaataa ctccttagct    120
tggtctgatt gttttcagac cttaaaatat aaacttgttt cacaagcttt aatccatgtg    180
gatttttttt cttagagaac cacaaaacat aaaaggagca agtcggactg aatacctgtt    240
tccatagtgc ccacagggta ttcctcacat tttctccata ggaaaatgct ttttcccaag    300
g                                                                    301

```

&lt;210&gt; 254

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 254

```

cgctgcgcct ttcccttggg ggagggggcaa ggccagaggg ggtccaagtg cagcacgagg    60
aacttgacca attcccttga agcgggtggg ttaaaccctg taaatgggaa caaatcccc    120
ccaaatctct tcatcttacc ctggtggact cctgactgta gaattttttg gttgaaacaa    180
gaaaaaaata agcttttggg cttttcaagg ttgcttaaca ggtactgaaa gactggcctc    240
acttaaaactg agccaggaaa agctgcagat ttattaatgg gtgtgttagt gtgcagtgcc    300
t                                                                    301

```

&lt;210&gt; 255

&lt;211&gt; 302

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 255

```

agcttttttt tttttttttt tttttttttt ttcattaaaa aatagtgtct tttattataa    60
attactgaaa tgtttctttt ctgaatataa atataaatat gtgcaaagtt tgacttggat    120
tggtgatttg ttgagttctt caagcatctc ctaataccct caaggggctg agtagggggg    180
aggaaaaagg actggagggt gaatctttat aaaaaacaag agtgattgag gcagattgta    240
aacattatta aaaaacaaga aacaaacaaa aaaaatagaga aaaaaccac cccaacacac    300
aa                                                                    302

```

&lt;210&gt; 256

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(301)  
 <223> n = A,T,C or G

<400> 256  
 gttccagaaa acattgaagg tggtttccca aagtctaact agggataccc cctctagcct 60  
 aggaccctcc tccccacacc tcaatccacc aaaccatcca taatgcaccc agataggccc 120  
 acccccaaaa gcctggacac cttgagcaca cagttatgac caggacagac tcatctctat 180  
 aggcaaatag ctgctggcaa actggcatta cctggtttgt ggggatgggg gggcaagtgt 240  
 gtggcctctc ggctgggta gcaagaacat tcagggtagg cctaagttan tcgtgttagt 300  
 t 301

<210> 257  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 257  
 gttgtggagg aactctggct tgctcattaa gtccactga ttttcactat cccctgaatt 60  
 tccccactta tttttgtctt tcactatcgc aggccttaga agaggtctac ctgcctccag 120  
 tcttacctag tccagtctac cccctggagt tagaatggcc atcctgaagt gaaaagtaat 180  
 gtcacattac tcccttcagt gatttcttgt agaagtgcc atccctgaat gccaccaaga 240  
 tcttaattct cacatcttta atcttatctc ttgactcct ctttacaccg gagaaggctc 300  
 c 301

<210> 258  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(301)  
 <223> n = A,T,C or G

<400> 258  
 cagcagtagt agatgccgta tgccagcacg cccagcactc ccaggatcag caccagcacc 60  
 aggggcccag ccaccaggcg cagaagcaag ataaacagta ggctcaagac cagagccacc 120  
 cccagggcaa caagaatcca ataccaggac tgggcaaaat cttcaaagat cttaacactg 180  
 atgtctcggg cattgaggct gtcaataana cgctgatccc ctgctgtatg gtggtgtcat 240  
 tgggtgatccc tgggagcgcc ggtggagtaa cgttgggtcca tggaaagcag cgcccacaac 300  
 t 301

<210> 259  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(301)  
 <223> n = A,T,C or G

<400> 259

```

tcatatatgc aaacaaatgc agactangcc tcaggcagag actaaaggac atctcttggg      60
gtgtcctgaa gtgatttgga cccctgaggg cagacaccta agtaggaatc ccagtgggaa      120
gcaaagccat aaggaagccc aggattcctt gtgatcagga agtggggccag gaaggtctgt      180
tccagctcac atctcatctg catgcagcac ggaccggatg cgcccactgg gtcttgggctt      240
ccctcccatc ttctcaagca gtgtccttgt tgagccattt gcctccttgg ctccaggtgg      300
c                                                                    301

```

```

<210> 260
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 260
tttttttttct ccctaaggaa aaagaaggaa caagtctcat aaaaccaaata aagcaatggg      60
aaggtgtctt aacttgaaaa agattaggag tcaactgggtt acaagttata attgaatgaa      120
agaactgtaa cagccacagt tggccatttc atgccaatgg cagcaaacaa caggattaac      180
tagggcaaaa taaataagtg tgtggaagcc ctgataagtg cttataaac agactgattc      240
actgagacat cagtacctgc ccgggcggcc gctcgagccg aattctgcag atatccatca      300
c                                                                    301

```

```

<210> 261
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 261
aaatattcga gcaaactcctg taactaatgt gtctccataa aaggctttga actcagtga      60
tctgcttcca tccacgattc tagcaatgac ctctcggaca tcaaagctcc tcttaagggt      120
agcaccaact attccatata attcatcagc aggaaataaa ggctcttcag aaggttcaat      180
ggtgacatcc aattttcttct gataatttag attcctcaca accttcctag ttaagtgaag      240
ggcatgatga tcatccaaag cccagtgggtc acttactcca gactttctgc aatgaagatc      300
a                                                                    301

```

```

<210> 262
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 262
gaggagagcc tggtacagca tttgtaagca cagaatactc caggagtatt tgtaattgtc      60
tgtgagcttc ttgccgcaag tctctcagaa atttaaaaag atgcaaatac ctgagtcacc      120
cctagacttc ctaaaccaga tcctctgggg ctggaacctg gcaactctgca tttgtaatga      180
gggctttctg gtgcacacct aattttgtgc atctttgccc taaatcctgg attagtggcc      240
catcattacc cccacattat aatgggatag attcagagca gatactctcc agcaaagaat      300
c                                                                    301

```

```

<210> 263
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (301)
<223> n = A,T,C or G

```

## &lt;400&gt; 263

tttagcttgt	ggtaaagac	tcacaaaact	gattttaaaa	tcaagttaat	gtgaattttg	60
aaaattacta	cttaatccta	attcacaata	acaatggcat	taaggtttga	cttgagttgg	120
ttcttagtat	tatttatggg	aaataggctc	ttaccacttg	caaataactg	gccacatcat	180
taatgactga	cttcccagta	aggctctcta	aggggtaagt	angaggatcc	acaggatttg	240
agatgctaag	gccccagaga	tcgtttgatc	caaccctctt	attttcagag	gggaaaatgg	300
g						301

&lt;210&gt; 264

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

## &lt;400&gt; 264

aaagacgtta	aaccactcta	ctaccacttg	tggaactctc	aaagggtaaa	tgacaaaasc	60
aatgaatgac	tctaaaaaca	atatttacat	ttaatggttt	gtagacaata	aaaaaacaag	120
gtggatagat	ctagaattgt	aacattttta	gaaaaccata	scatttgaca	gatgagaaag	180
ctcaattata	gatgcaaagt	tataactaaa	ctactatagt	agtaaagaaa	tacatttcac	240
acccttcata	taaattcact	atcttggttt	gaggcactcc	ataaaatgta	tcacgtgcat	300
a						301

&lt;210&gt; 265

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

## &lt;400&gt; 265

tgcccaagtt	atgtgtaagt	gtatccgcac	ccagaggtaa	aactacactg	tcattctttgt	60
cttcttgtga	cgcagtatct	cttctctggg	gagaagccgg	gaagtcttct	cctgggtcta	120
catattcttg	gaagtctcta	atcaactttt	gttccatttg	tttcatttct	tcaggaggga	180
ttttcagttt	gtcaacatgt	tctctaacaa	cacttgccca	tttctgtaaa	gaatccaaag	240
cagtccaagg	ctttgacatg	tcaacaacca	gcataactag	agtatccttc	agagatacgg	300
c						301

&lt;210&gt; 266

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

## &lt;400&gt; 266

taccgtctgc	ccttctctcc	atccaggcca	tctgccaatc	tacatgggtc	ctcctattcg	60
acaccagatc	actctttcct	ctaccacag	gcttgctatg	agcaagagac	acaacctcct	120
ctcttctgtg	ttccagcttc	ttttcctggt	cttcccaccc	cttaagttct	attcctgggg	180
atagagacac	caatacccat	aacctctctc	ctaagcctcc	ttataaccca	gggtgcacag	240
cacagactcc	tgacaactgg	taaggccaat	gaactgggag	ctcacagctg	gctgtgcctg	300
a						301

&lt;210&gt; 267

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

## &lt;400&gt; 267

aaagagcaca	ggccagctca	gcctgccctg	gccatctaga	ctcagcctgg	ctccatgggg	60
------------	------------	------------	------------	------------	------------	----

```

gttctcagtg ctgagtcctat ccaggaaaag ctcacctaga ctttctgagg ctgaatcttc      120
atcctcacag gcagcttctg agagcctgat attcctagcc ttgatggtct ggagtaaagc      180
ctcattctga ttctctctct tcttttcttt caagttggct ttcttcacat ccctctgttc      240
aatcgcttc agcttgtctg ctttagccct catttcaga agcttcttct ctttggcatc      300
t                                                                                   301

```

```

<210> 268
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 268
aatgtctcac tcaactactt cccagcctac cgtggcctaa ttctgggagt tttcttctta      60
gatcttggga gagctgggtc ttctaaggag aaggaggaag gacagatgta actttggatc      120
tcgaagagga agtctaattg aagtaattag tcaacgggtc ttgtttagac tcttgggaata      180
tgctgggtgg ctcaagtgcg ccttttggag aaagcaagta ttattcttaa ggagtaacca      240
cttcccattg ttctactttc taccatcatc aattgtatat tatgtattct ttggagaact      300
a                                                                                   301

```

```

<210> 269
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 269
taacaatata cactagctat ctttttaact gtccatcatt agcaccaatg aagattcaat      60
aaaattacct ttattcacac atctcaaaac aattctgcaa attcttagtg aagttaact      120
atagtcacag accttaaata ttcacattgt tttctatgtc tactgaaaat aagttcacta      180
cttttctgga tattctttac aaaatcttat taaaattcct ggtattatca cccccaatta      240
tacagtagca caaccacctt atgtagtttt tacatgatag ctctgtagaa gtttcacatc      300
t                                                                                   301

```

```

<210> 270
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 270
cattgaagag cttttgcgaa acatcagaac acaagtgctt ataaaattaa ttaagcctta      60
cacaagaata catattcctt ttatttctaa ggagttaaac atagatgtag ctgatgtgga      120
gagcttgctg gtgcagtgcg tattggataa cactattcat ggccgaattg atcaagtcaa      180
ccaactcctt gaactggatc atcagaagaa ggggtggtgca cgatatactg cactagataa      240
tggaccaacc aactaaattc tctcaccagg ctgtatcagt aaactggctt aacagaaaac      300
a                                                                                   301

```

```

<210> 271
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

&lt;400&gt; 271

```

aaaagggttct cataagatta acaattttaa taaatatttg atagaacatt ctttctcatt      60
tttatagctc atctttaggg ttgatattca gttcatgctt cccttgctgt tcttgatcca      120
gaattgcaat cacttcatca gcctgtattc gctccaattc tctataaagt ggggtccaagg      180
tgaaccacag agccacagca cacctctttc ccttggtgac tgccttcacc ccatganggt      240
tctctctccc agatganaac tgatcatgcg cccacatttt ggggttttata gaagcagtca      300
c                                                                                   301

```

&lt;210&gt; 272

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 272

```

taaattgcta agccacagat aacaccaatc aaatggaaca aatcactgtc ttcaaattgtc      60
ttatcagaaa accaaatgag cctggaatct tcataatacc taaacatgcc gtatttagga      120
tccaataatt ccctcatgat gagcaagaaa aattctttgc gcacccctcc tgcattccaca      180
gcatctttct caacaaatat aaccttgagt ggcttcttgt aatctatgtt ctttggttttc      240
ctaaggactt ccattgcac tctacaata ttttctctac gcaccactag aattaagcag      300
g                                                                                   301

```

&lt;210&gt; 273

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 273

```

acatgtgtgt atgtgtatct ttgggaaaaa aanaagacat cttgtttayt attttttttg      60
agagangctg ggacatggat aatcacwtaa ttgtctayta tyactttaat ctgactygaa      120
gaaccgtcta aaaataaaaat ttaccatgtc dtatattcct tatagtatgc ttatttcacc      180
ttytttctgt ccagagagag tatcagtgc ananatttma ggggtgaamac atgmattggg      240
gggacttnty tttacngagm accctgcccg sgcgccctcg makcngantt ccgcsananc      300
t                                                                                   301

```

&lt;210&gt; 274

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 274

```

cttatatact ctttctcaga ggcaaaagag gagatgggta atgtagacaa ttcttttgagg      60
aacagtaaat gattattaga gagaangaat ggaccaagga gacagaaatt aacttgtaaa      120
tgattctctt tggaatctga atgagatcaa gaggccagct ttagcttggt gaaaagtcca      180
tctaggtatg gttgcattct cgtcttcttt tctgcagtag ataattagggt aaccgaaggc      240
aattgtgctt cttttgataa gaagctttct tggatcatc aggaaattcc aganaaagtc      300

```



c

301

<210> 275  
<211> 301  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(301)  
<223> n = A,T,C or G

<400> 275  
tcggtgtcag cagcacgtgg cattgaacat tgcaatgtgg agcccaaacc acagaaaatg 60  
gggtgaaatt ggccaacttt ctattaactt atgttggtgcaa ttttgccacc aacagtaagc 120  
tggcccttct aataaaagaa aattgaaagg tttctcacta aacggaatta agtagtggag 180  
tcaagagact cccaggcctc agcgtacctg cccgggaggc cgctcgaagc cgaattctgc 240  
agatatccat cacactggcg gncgctcgan catgcatcta gaaggnccaa ttcgccctat 300  
a 301

<210> 276  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 276  
tgtacacata ctcaataaat aaatgactgc attgtggtat tattactata ctgattatat 60  
ttatcatgtg acttctaatt agaaaatgta tccaaaagca aaacagcaga tatacaaaat 120  
taaagagaca gaagatagac attaacagat aaggcaactt atacattgag aatccaaatc 180  
caatacathtt aaacatttgg gaaatgaggg ggacaaatgg aagccagatc aaatttgtgt 240  
aaaactattc agtatgtttc ctttgcttca tgtctgagaa ggctctcctt caatggggat 300  
g 301

<210> 277  
<211> 301  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(301)  
<223> n = A,T,C or G

<400> 277  
tttgttgatg tcagtatttt attacttgcg ttatgagtgc tcacctggga aattcctaaag 60  
atacagagga cttggaggaa gcagagcaac tgaattttaat ttaaaagaag gaaaacattg 120  
gaatcatggc actcctgata ctttcccaaa tcaacactct caatgccccca cctcgtcctt 180  
caccatagtg gggagactaa agtggccacg gatttgcctt angtgtgcag tgcgttctga 240  
gttcnctgtc gattacatct gaccagtctc ctttttccga agtcctntccg ttcaatcttg 300  
c 301

<210> 278  
<211> 301  
<212> DNA  
<213> Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 278

taccactaca	ctccagcctg	ggcaacagag	caagacctgt	ctcaaagcat	aaaatggaat	60
aacatatcaa	atgaaacagg	gaaaatgaag	ctgacaattt	atggaagcca	gggcttgcca	120
cagtctctac	tggtattatg	cattacctgg	gaatttatat	aagcccttaa	taataatgcc	180
aatgaacatc	tcattgtgtg	tcacaatgtt	ctggcactat	tataagtgtc	tcacagggtt	240
tatgtgttct	tcgtaacttt	atggantagg	tactcggccg	cgaacacgct	aagccgaatt	300
c						301

&lt;210&gt; 279

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 279

aaagcaggaa	tgacaaagct	tgcttttctg	gtatgttcta	gggtgtattgt	gacttttact	60
gttatattaa	ttgccaatat	aagtaaatat	agattatata	tgtatagtgt	ttcacaaagc	120
ttagaccttt	accttccagc	cacccacag	tgcttgatat	ttcagagtca	gtcattgggt	180
atacatgtgt	agttccaaag	cacataagct	agaanaanaa	atatttctag	ggagcactac	240
catctgtttt	cacatgaaat	gccacacaca	tagaactcca	acatcaattt	cattgcacag	300
a						301

&lt;210&gt; 280

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 280

ggtactggag	ttttcctccc	ctgtgaaaac	gtaactactg	ttggggagtga	attgaggatg	60
tagaaagggt	gtggaaccaa	atttgtggtca	atggaaatag	gagaatatgg	ttctcactct	120
tgagaaaaaa	acctaagatt	agcccaggta	gttgccctgta	acttcagttt	ttctgcctgg	180
gtttgatata	gtttagggtt	gggggttagat	taagatctaa	attacatcag	gacaaagaga	240
cagactatta	actccacagt	taattaagga	ggtatgttcc	atgtttattt	gttaaagcag	300
t						301

&lt;210&gt; 281

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 281

aggtacaaga	aggggaatgg	gaaagagctg	ctgctgtggc	attgttcaac	ttggatattc	60
gccgagcaat	ccaaatcctg	aatgaagggg	catcttctga	aaaaggagat	ctgaatctca	120
atgtggtagc	aatggcttta	tcgggttata	cggatgagaa	gaactccctt	tggagagaaa	180
tgtgtagcac	actgcgatta	cagctaaata	accctgattt	gtgtgtcatg	tttgcatttc	240

tgacaagtga aacaggatct tacgatggag ttttztatga aaacaaagtt gcagtacctc 300  
g 301

<210> 282  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 282  
caggtactac agaattaaaa tactgacaag caagtagttt cttggcgtgc acgaattgca 60  
tccagaaccc aaaaatttaag aaattcaaaa agacattttg tgggcacctg ctagcacaga 120  
agcgcagaag caaagcccag gcagaacccat gctaaccctta cagctcagcc tgcacagaag 180  
cgcagaagca aagcccaggc agaaccatgc taaccttaca gctcagcctg cacagaagcg 240  
cagaagcaaa gccccaggcag aacatgctaa ccttacagct cagcctgcac agaagcacag 300  
a 301

<210> 283  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 283  
atctgtatac ggcagacaaa ctttatarag tgtagagagg tgagcgaaaag gatgcaaaaag 60  
cacttttgagg gctttataat aatatgctgc ttgaaaaaaa aaatgtgtag ttgatactca 120  
gtgcatctcc agacatagta aggggttgct ctgaccaatc aggtgatcat tttttctatc 180  
acttcccagg ttttatgcaa aaattttggt aaattctata atggtgatat gcattctttta 240  
ggaaacatat acatttttaa aaatctattt tatgtaagaa ctgacagacg aatttgcttt 300  
g 301

<210> 284  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 284  
caggtacaaa acgctattaa gtggcttaga atttgaacat ttgtggtctt tatttacttt 60  
gcttcgtgtg tgggcaaaagc aacatcttcc ctaaaatat attaccaaga aaagcaagaa 120  
gcagattagg tttttgacaa acaaaacagg ccaaaagggg gctgacctg agcagagcat 180  
ggtgagaggc aaggcatgag agggcaagtt tgttgtggac agatctgtgc ctactttatt 240  
actggagtaa aagaaaacaa agttcattga tgctgaagga tatatacagt gttagaaatt 300  
a 301

<210> 285  
<211> 301  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(301)  
<223> n = A,T,C or G

<400> 285  
acatcaccat gatcggtacc cccacccatt atacgttgta tgtttacata aatactcttc 60  
aatgatcatt agtgttttaa aaaaaatact gaaaactcct tctgcatccc aatctctaac 120

caggaaagca aatgctatatt acagacctgc aagccctccc tcaaacnaaa ctattttctgg 180  
attaaatatg tctgacttct tttgaggta cacgactagg caaatgctat ttacgatctg 240  
caaaagctgt ttgaagagtc aaagcccca tgtgaacacg atttctggac cctgtaacag 300  
t 301

<210> 286  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 286  
taccactgca ttccagcctg ggtgacagag tgagactccg tctccaaaaa aaacttttggct 60  
tgtatattat ttttgcttta cagtggatca ttctagtagg aaaggacagt aagatttttt 120  
atcaaaatgt gtcatgccag taagagatgt tatattcttt tctcatttct tccccaccca 180  
aaaataagct accatatagc ttataagtct caaatttttg ctttttacta aaatgtgatt 240  
gtttctgttc attgtgtatg cttcatcacc tatattaggc aaattccatt ttttcccttg 300  
t 301

<210> 287  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 287  
tacagatctg ggaactaaat attaaaaatg agtgtggctg gatatatgga gaatgttggg 60  
cccagaagga acgtagagat cagatattac aacagctttg ttttgagggt tagaaatatg 120  
aaatgatttg gttatgaacg cacagttagg gcagcagggc cagaatcctg accctctgcc 180  
ccgtgggtat ctctcccca gcttggtgc ctcattgtat cacagtattc cattttgttt 240  
gttgcattgc ttgtgaagcc atcaagattt tctcgtctgt tttcctctca ttggtaatgc 300  
t 301

<210> 288  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 288  
gtacacctaa ctgcaaggac agctgaggaa tgtaatgggc agccgctttt aaagaagtag 60  
agtcaatagg aagacaaatt ccagttccag ctcatctggg gtatctgcaa agctgcaaaa 120  
gatcttttaa gacaatttca agagaatatt tccttaaagt tggcaatttg gagatcatac 180  
aaaagcatct gcttttgtga tttaatttag ctcatctggc cactggaaga atccaaacag 240  
tctgccttaa ttttggtatg atgcatgatg gaaattcaat aatttagaaa gttaaaaaaa 300  
a 301

<210> 289  
<211> 301  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1) ... (301)  
<223> n = A,T,C or G

<400> 289

```

ggtagactgt ttccatgtta tgtttctaca cattgctacc tcagtgtccc tggaaactta      60
gcttttgatg tctccaagta gtccaccttc atttaactct ttgaaactgt atcatctttg      120
ccaagtaaga gtggtggcct atttcagctg ctttgacaaa atgactggct cctgacttaa      180
cgttctataa atgaatgtgc tgaagcaaag tgcccatggg ggcggcgaan aagagaaaga      240
tgtgttttgt tttggactct ctgtgggtccc ttccaatgct gtgggtttcc aaccagnnga      300
a                                                                 301

```

```

<210> 290
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

```

<400> 290
acactgagct cttcttgata aatatacaga atgcttggca tatacaagat tctatactac      60
tgactgatct gttcatttct ctcacagctc ttaccccaaa aagcttttcc accctaagtg      120
ttctgacctc ctttttctaat cacagtaggg atagaggcag anccacctac aatgaacatg      180
gagttctatc aagaggcaga aacagcacag aatcccagtt ttaccattcg ctagcagtgc      240
tgccttgaac aaaaacattt ctccatgtct ctttttcttc atgcctcaag taacagtgag      300
a                                                                 301

```

```

<210> 291
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 291
caggtaccaaa tttcttctat cctagaaaca tttcatttta tgttgttgaa acataacaac      60
tatatcagct agattttttt tctatgcttt acctgctatg gaaaatttga cacattctgc      120
tttactcttt tgtttatagg tgaatcacia aatgtatttt tatgtattct gtagtccaat      180
agccatggct gtttacttca ttttaatttat ttagcataaa gacattatga aaaggcctaa      240
acatgagctt cacttcccca ctaactaatt agcatctggt atttcttaac cgtaatgcct      300
a                                                                 301

```

```

<210> 292
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

```

<400> 292
accttttagt agtaatgtct aataataaat aagaaatcaa ttttataagg tccatatagc      60
tgtattaaat aatttttaag tttaaaagat aaaataccat ctttttaa atgttggtattc      120
aaaaccaaag natataaccg aaaggaaaaa cagatgagac ataaaatgat ttgcnagatg      180
ggaaatatag tasttyatga atgttnatta aattccagtt ataatagtgg ctacacactc      240
tcactacaca cacagacccc acagtcctat atgccacaaa cacatttcca taacttgaaa      300
a                                                                 301

```

<210> 293  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 293  
 ggtaccaagt gctgggtgcc gctgttacc tgttctcact gaaaagtctg gctaattgctc 60  
 ttgtgtagtc acttctgatt ctgacaatca atcaatcaat ggcctagagc actgactgtt 120  
 aacacaaaacg tcactagcaa agtagcaaca gctttaagtc taaatacaaa gctgttctgt 180  
 gtgagaattt tttaaaaggc tacttgtata ataacccttg tcatttttaa tgtacctcgg 240  
 ccgcgaccac gctaagccga attctgcaga tatccatcac actggcggcc gctcgagcat 300  
 g 301

<210> 294  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(301)  
 <223> n = A,T,C or G

<400> 294  
 tgacccataa caatatacac tagctatctt ttttaactgtc catcattagc accaatgaag 60  
 attcaataaaa attaccttta ttcacacatc tcaaaaacaat tctgcaaatt cttagtgaag 120  
 ttttaactata gtcacaganc ttaaataattc acattgtttt ctatgtctac tgaaaataag 180  
 ttcactactt ttctgggata ttctttacaa aatcttatta aaattcctgg tattatcacc 240  
 cccaattata cagtagcaca accaccttat gtagttttta catgatagct ctgtagaggt 300  
 t 301

<210> 295  
 <211> 305  
 <212> DNA  
 <213> Homo sapien

<400> 295  
 gtactctttc tctccctccc tctgaattta attctttcaa cttgcaattt gcaaggatta 60  
 cacatttcac tgtgatgtat attgtgttgc aaaaaaaaaa gtgtctttgt ttaaaattac 120  
 ttggtttgtg aatccatctt gctttttccc cattggaact agtcattaac ccatctctga 180  
 actggtagaa aaacrtctga agagctagtc tatcagcatc tgacaggtga attggatggg 240  
 tctcagaacc atttcacca gacagcctgt ttctatcctg ttttaataaat tagtttgggt 300  
 tctct 305

<210> 296  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 296  
 aggtactatg ggaagctgct aaaataatat ttgatagtaa aagtatgtaa tgtgctatct 60  
 cacctagtag taaactaaaa ataaactgaa actttatgga atctgaagtt attttcttg 120  
 attaaataga attaataaac caatatgagg aaacatgaaa ccatgcaatc tactatcaac 180  
 tttgaaaaag tgattgaacg aaccacttag ctttcagatg atgaacactg ataagtcatt 240

tgtcattact ataaatttta aaatctgtta ataagatggc ctatagggag gaaaaagggg 300  
c 301

<210> 297  
<211> 300  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(300)  
<223> n = A,T,C or G

<400> 297  
actgagtttt aactggacgc caagcaggca aggctggaag gttttgctct ctttgtgcta 60  
aaggttttga aaaccttgaa ggagaatcat tttgacaaga agtacttaag agtctagaga 120  
acaagangt gaaccagctg aaagctctcg ggggaanctt acatgtgttg ttaggcctgt 180  
tccatcattg ggagtgcact ggccatccct caaaatttgt ctgggctggc ctgagtggtc 240  
accgcacctc ggccgcgacc acgctaagcc gaattctgca gatatccatc acactggcgg 300

<210> 298  
<211> 301  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(301)  
<223> n = A,T,C or G

<400> 298  
tatggggtttt gtcacccaaa agctgatgct gagaaaggcc tccctggggc cccteccgcg 60  
ggcatctgag agacctggtg ttccagtgtt tctggaaatg ggtcccagtg ccgccggctg 120  
tgaagctctc agatcaatca cgggaagggc ctggcggtgg tggccacctg gaaccacctt 180  
gtcctgtctg ttacatttc actaycaggt tttctctggg cattacnatt tgttccccta 240  
caacagtgac ctgtgcattc tgctgtggcc tgctgtgtct gcagggtggc ctcagcgagg 300  
t 301

<210> 299  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 299  
gttttgagac ggagtttcac tcttgttgcc cagactggac tgcaatggca gggctctctgc 60  
tcaactgcacc ctctgcctcc caggttcgag caattctcct gcctcagcct cccaggtagc 120  
tgggattgca ggctcacgcc accataccca gctaattttt ttgtattttt agtagagacg 180  
gagtttcgcc atgttggcca gctgggtctca aactcctgac ctcaagcgac ctgcctgcct 240  
cggcctccca aagtgtgga attataggca tgagtcaaca cgccagcct aaagatatatt 300  
t 301

<210> 300  
<211> 301  
<212> DNA  
<213> Homo sapien

&lt;400&gt; 300

attcagtttt	atttgctgcc	ccagtatctg	taaccaggag	tgccacaaaa	tcttgccaga	60
tatgtcccac	acccactggg	aaaggctccc	acctggctac	ttcctctatc	agctgggtca	120
gctgcattcc	acaaggttct	cagcctaata	agtttacta	cctgccagtc	tcaaaactta	180
gtaaagcaag	accatgacat	tccccacgg	aaatcagagt	ttgccccacc	gtcttggtac	240
tataaagcct	gcctctaaca	gtccttgctt	cttcacacca	atccccgagc	catcccccat	300
g						301

&lt;210&gt; 301

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 301

ttaaattttt	gagaggataa	aaaggacaaa	taatctagaa	atgtgtcttc	ttcagtctgc	60
agaggacccc	aggtctccaa	gcaaccacat	ggtcaagggc	atgaataatt	aaaagttggt	120
gggaactcac	aaagaccctc	agagctgaga	caccacaaac	agtgggagct	cacaaagacc	180
ctcagagctg	agacacccac	aacagtggga	gctcacaaag	accctcagag	ctgagacacc	240
cacaacagca	cctcgttcag	ctgccacatg	tgtgaataag	gatgcaatgt	ccagaagtgt	300
t						301

&lt;210&gt; 302

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 302

aggtacacat	ttagcttggtg	gtaaatgact	cacaaaaactg	attttaaaat	caagttaatg	60
tgaattttga	aaattactac	ttaatcctaa	ttcacaataa	caatggcatt	aaggtttgac	120
ttgagttggt	tcttagtatt	atztatggta	aataggctct	taccacttgc	aaataactgg	180
ccacatcatt	aatgactgac	ttcccagtaa	ggctctctaa	ggggtaagta	ggaggatcca	240
caggatttga	gatgctaagg	ccccagagat	cgtttgatcc	aaccctctta	ttttcagagg	300
g						301

&lt;210&gt; 303

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 303

aggtaccaac	tgtggaaata	ggtagaggat	cattttttct	ttccatatca	actaagttgt	60
atattgtttt	ttgacagttt	aacacatctt	cttctgtcag	agattctttc	acaatagcac	120
tggctaattg	aactaccgct	tgcattgtta	aaatgggtgt	ttgtgaaatg	atcataggcc	180
agtaacgggt	atgtttttct	aactgatctt	ttgctcgttc	caaagggacc	tcaagacttc	240
catcgatttt	atatctgggg	tctagaaaag	gagttaatct	gttttccctc	ataaattcac	300
c						301

&lt;210&gt; 304

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 304

acatggatgt	tattttgcag	actgtcaacc	tgaatttgta	tttgcttgac	attgcctaata	60
------------	------------	------------	------------	------------	-------------	----



tattagtttc agtttcagct taccactttt ttgtctgcaa catgcaraas agacagtgcc	120
cttttttagtg tatcatatca ggaatcatct cacattgggt ttgtgccatta ctggtgcagt	180
gactttcagc cacttgggta aggtggagtt ggccatatgt ctccactgca aaattactga	240
ttttcctttt gtaattaata agtgtgtgtg tgaagattct ttgagatgag gtatatatct	300
c	301

<210> 305  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(301)  
 <223> n = A,T,C or G

<400> 305	
gangtacagc gtggtcaagg taacaagaag aaaaaaatgt gagtggcatc ctgggatgag	60
caggggggaca gacctggaca gacacgttgt catttgctgc tgtgggtagg aaaatgggag	120
taaaggagga gaaacagata caaatctcc aactcagtat taaggattc tcatgcctag	180
aatattggta gaaacaagaa tacattcata tggcaaataa ctaaccatgg tggaacaaaa	240
ttctgggatt taagttggat accaangaaa ttgtattaaa agagctgttc atggaataag	300
a	301

<210> 306  
 <211> 8  
 <212> PRT  
 <213> Homo sapien

<400> 306  
 Val Leu Gly Trp Val Ala Glu Leu  
 1 5

<210> 307  
 <211> 637  
 <212> DNA  
 <213> Homo sapien

<400> 307	
acaggggratg aagggaagg gagaggatga ggaagcccc ctggggattt ggtttggtcc	60
ttgtgatcag gtggtctatg gggcttatcc ctacaaagaa gaatccagaa atagggggcac	120
attgaggaat gatacttgag cccaaagagc attcaatcat tgttttattt gccttmtttt	180
cacaccattg gtgagggagg gattaccacc ctggggttat gaagatggtt gaacacccca	240
cacatagcac cggagatatg agatcaacag tttcttagcc atagagattc acagcccaga	300
gcaggaggac gcttgcacac catgcaggat gacatggggg atgcgctcgg gattggtgtg	360
aagaagcaag gactgttaga ggcaggcttt atagtaacaa gacggtgggg caaactctga	420
tttccgtggg ggaatgtcat ggtcttgctt tactaagttt tgagactggc aggtagtga	480
actcattagg ctgagaacct tgtggaatgc acttgacca sctgatagag gaagtagcca	540
ggtgggagcc tttcccagtg ggtgtgggac atatctggca agattttgtg gcactcctgg	600
ttacagatac tggggcagca aataaaactg aatcttg	637

<210> 308  
 <211> 647  
 <212> DNA  
 <213> Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(647)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 308

acgattttca	ttatcatgta	aatcgggtca	ctcaaggggc	caaccacagc	tgggagccac	60
tgctcagggg	aagggtcata	tgggactttc	tactgcccac	ggttctatac	aggatataaa	120
ggngcctcac	agtatagatc	tggtagcaaa	gaagaagaaa	caaacactga	tctctttctg	180
ccacccctct	gaccctttgg	aactcctctg	accctttaga	acaagcctac	ctaataatctg	240
ctagagaaaa	gaccaacaac	ggcctcaaag	gatctcttac	catgaaggtc	tcagctaatt	300
cttggctaag	atgtgggttc	cacattaggt	tctgaatatg	gggggaaggg	tcaatttgct	360
cattttgtgt	gtggataaag	tcaggatgcc	cagggggccag	agcagggggc	tgcttgcttt	420
gggaacaatg	gctgagcata	taaccatagg	ttatggggaa	caaaacaaca	tcaaagtcac	480
tgtatcaatt	gccatgaaga	cttgagggac	ctgaatctac	cgattcatct	taaggcagca	540
ggaccagttt	gagtggcaac	aatgcagcag	cagaatcaat	ggaaacaaca	gaatgattgc	600
aatgtccttt	tttttctcct	gcttctgact	tgataaaaag	ggaccgt		647

&lt;210&gt; 309

&lt;211&gt; 460

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 309

actttatagt	ttaggctgga	cattggaaaa	aaaaaaaaagc	cagaacaaca	tgtgatagat	60
aatatgattg	gctgcacact	tccagactga	tgaatgatga	acgtgatgga	ctattgtatg	120
gagcacatct	tcagcaagag	ggggaaatac	tcatcatttt	tggccagcag	ttgtttgatc	180
accaaacatc	atgccagaat	actcagcaaa	ccttcttagc	tcttgagaag	tcaaagtcag	240
ggggaattta	ttcctggcaa	ttttaattgg	actccttatg	tgagagcagc	ggctacccag	300
ctgggggtgg	ggagcgaacc	cgtcactagt	ggacatgcag	tggcagagct	cctggtaacc	360
acctagagga	atacacaggc	acatgtgtga	tgccaagcgt	gacacctgta	gcactcaaat	420
ttgtcttggt	tttgtctttc	ggtgtgtaag	attcttaagt			460

&lt;210&gt; 310

&lt;211&gt; 539

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 310

acgggactta	tcaaataaag	ataggaaaag	aagaaaactc	aatattata	ggcagaaatg	60
ctaaagggtt	taaaatatgt	caggattgga	agaaggcatg	gataaagaac	aaagttcagt	120
taggaaagag	aaacacagaa	ggaagagaca	caataaaaag	cattatgtat	tctgtgagaa	180
gtcagacagt	aagatttggt	ggaaatgggt	tggtttggtg	tatggatgtg	attttagcaa	240
taatctttat	ggcagagaaa	gctaaaatcc	tttagcttgc	gtgaatgatc	acttgctgaa	300
ttcctcaagg	taggcatgat	gaaggagggt	ttagaggaga	cacagacaca	atgaactgac	360
ctagatagaa	agccttagta	tactcagcta	ggaatagtga	ttctgagggc	acactgtgac	420
atgattatgt	cattacatgt	atggtagtga	tggggatgat	aggaaggaag	aacttatggc	480
atattttcac	ccccacaaaa	gtcagttaaa	tattggggaca	ctaaccatcc	aggtcaaga	539

&lt;210&gt; 311

&lt;211&gt; 526

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(526)  
 <223> n = A,T,C or G

<400> 311

caaattttgag ccaatgacat agaattttac aaatcaagaa gcttattctg gggccatttc	60
ttttgacgtt ttctctaaac tactaaagag gcattaatga tccataaatt atattatcta	120
catttacagc atttaaaatg tggtcagcat gaaatattag ctacagggga agctaaataa	180
attaacatg gaataaagat ttgtccttaa atataatcta caagaagact ttgatatttg	240
tttttcacaa gtgaagcatt cttataaagt gtcataacct ttttggggaa actatgggaa	300
aaaatgggga aactctgaag gggttttaagt atcttacctg aagctacaga ctccataacc	360
tctctttaca gggagctcct gcagccccta cagaaatgag tggctgagat tcttgattgc	420
acagcaagag cttctcatct aaaccctttc cctttttagt atctgtgtat caagtataaa	480
agttctataa actgtagtnt acttatttta atccccaaag cacagt	526

<210> 312  
 <211> 500  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(500)  
 <223> n = A,T,C or G

<400> 312

cctctctctc cccaccccct gactctagag aactggggtt tctcccagta ctccagcaat	60
tcatttctga aagcagttga gccactttat tccaaagtac actgcagatg ttcaaactct	120
ccatttctct ttccttcca cctgccagtt ttgctgactc tcaacttgtc atgagtgtaa	180
gcattaagga cattatgctt cttcgattct gaagacaggc cctgctcatg gatgactctg	240
gcttcttagg aaaatatatt tcttccaaaa tcagtaggaa atctaaactt atccctctt	300
tgcagatgtc tagcagcttc agacatttgg ttaagaacct atgggaaaaa aaaaaatcct	360
tgctaattgt gtttcctttg taaaccanga ttcttatttg nctggatatag aatatcagct	420
ctgaacgtgt ggtaaagatt tttgtgttg aatataggag aaatcagttt gctgaaaagt	480
tagtcttaat tatctattgg	500

<210> 313  
 <211> 718  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(718)  
 <223> n = A,T,C or G

<400> 313

ggagatttgt gtggtttgca gccgagggag accaggaaga tctgcatggt gggaaggacc	60
tgatgataca gaggtgagaa ataagaaagg ctgctgactt taccatctga ggccacacat	120
ctgctgaaat ggagataatt aacatcacta gaaacagcaa gatgacaata taatgtctaa	180
gtagtacat gtttttgcac atttccagcc cttttaaata tccacacaca caggaagcac	240
aaaagggaagc acagagatcc ctgggagaaa tgcccggccg ccatcttggg tcatcgatga	300
gcctcgccct gtgcctgntc ccgcttgtga gggaaggaca ttagaaaatg aattgatgtg	360
ttccttaaaag gatggcagga aaacagatcc tggtgtggat atttatttga acgggattac	420

agatttgaaa tgaagtcaca aagtgagcat taccaatgag aggaaaacag acgagaaaat	480
cttgatgggt cacaagacat gcaacaaaca aaatggaata ctgtgatgac acgagcagcc	540
aactggggag gagataccac ggggcagagg tcaggattct ggccctgctg cctaactgtg	600
cgttatacca atcatttcta tttctaccct caaacaagct gtngaataac tgacttacgg	660
ttcttntggc ccacatttcc atnatccacc ccntcntttt aannttantic caaantgt	718

&lt;210&gt; 314

&lt;211&gt; 358

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 314

gtttattttac attacagaaa aaacatcaag acaatgtata ctattttcaaa tatatccata	60
cataatcaaaa tatagctgta gtacatgttt tcattgggtgt agattaccac aaatgcaagg	120
caacatgtgt agatctcttg tcttattctt ttgtctataa tactgtattg tgtagtccaa	180
gctctcggtg gtccagccac tgtgaaacat gctcccttta gattaacctc gtggacgctc	240
ttgttgtatt gctgaactgt agtgccctgt attttgcttc tgtctgtgaa ttctgttgct	300
tctggggcat ttccttgtga tgcagaggac caccacacag atgacagcaa tctgaatt	358

&lt;210&gt; 315

&lt;211&gt; 341

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 315

taccacctcc ccgctggcac tgatgagccg catcaccatg gtcaccagca ccatgaaggc	60
ataggtgatg atgaggacat ggaatgggcc cccaaggatg gtctgtccaa agaagcgagt	120
gacccccatt ctgaagatgt ctggaacctc taccagcagg atgatgatag ccccaatgac	180
agtcaccagc tccccgacca gccggatata gtccttaggg gtcatgtagg cttcctgaag	240
tagcttctgc tgtaagaggg tggtgtcccc ggggctcgtg cggttattgg tcttgggctt	300
gagggggcgg tagatgcagc acatggtgaa gcagatgatg t	341

&lt;210&gt; 316

&lt;211&gt; 151

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 316

agactgggca agactcttac gccccacact gcaatttggt cttgttgccg tatccattta	60
tgtgggcctt tctcgagttt ctgattataa acaccactgg agcgatgtgt tgactggact	120
cattcaggga gctctggttg caatattagt t	151

&lt;210&gt; 317

&lt;211&gt; 151

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 317

agaactagtg gatcctaata aaataacctga aacatatatt ggcattttatc aatgggctcaa	60
atcttcattt atctctggcc ttaacctggg ctccctgaggc tgcggccagc agatcccagg	120
ccaggggctct gttcttgcca cacctgcttg a	151

&lt;210&gt; 318

&lt;211&gt; 151

&lt;212&gt; DNA

<213> Homo sapien

<400> 318

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actggtggga ggcgctgttt agttggctgt tttcagaggg gtctttcgga gggacctcct    60
gctgcaggct ggagtgtctt tattcctggc gggagaccgc acattccact gctgaggctg    120
tgggggcggt ttatcaggca gtgataaaca t                                  151
```

<210> 319

<211> 151

<212> DNA

<213> Homo sapien

<400> 319

```
aactagtggga tccagagcta taggtacagt gtgatctcag ctttgcaaac acattttcta    60
catagatagt actaggtatt aatagatatg taaagaaaga aatcacacca ttaataatgg    120
taagattggg tttatgtgat tttagtgggt a                                  151
```

<210> 320

<211> 150

<212> DNA

<213> Homo sapien

<400> 320

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aactagtggga tccactagtc cagtgtggtg gaattccatt gtggtgggggt tctagatcgc    60
gagcggtgc cctttttttt tttttttttg ggggggaatt tttttttttt aatagttatt    120
gagtgttcta cagcttacag taaataccat                                  150
```

<210> 321

<211> 151

<212> DNA

<213> Homo sapien

<400> 321

```
agcaactttg tttttcatcc aggttatctt aggccttagga tttcctctca cactgcagtt    60
taggggtggca ttgtaaccag ctatggcata ggtgttaacc aaaggctgag taaacatggg    120
tgcctctgag aaatcaaagt cttcatacac t                                  151
```

<210> 322

<211> 151

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(151)

<223> n = A,T,C or G

<400> 322

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atccagcatc ttctcctgtt tcttgccctc ctttttcttc ttcttasatt ctgcttgagg    60
tttgggcttg gtcagtttgc cacagggctt ggagatgggt acagtcttct ggcattcggc    120
attgtgcagg gctcgttca nacttccagt t                                  151
```

<210> 323

<211> 151

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(151)

<223> n = A,T,C or G

<400> 323

tgaggacttg tktttctttt ctttattttt aatcctctta ckttgtaa atattgccta	60
nagactcant tactaccag tttgtggtt twtgggagaa atgtaactgg acagttagct	120
gttcaatyaa aaagacactt ancccatgtg g	151

<210> 324

<211> 461

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(461)

<223> n = A,T,C or G

<400> 324

acctgtgtgg aatttcagct ttctcatgc aaaaggattt tgtatccccg gcctacttga	60
agaagtggc agctaaagga atccagggtg ttggttgga tgtaatacc tttgatgaaa	120
agagttacta cgaatcccat cttggttcca gctatatcac tgacagcatg gtagaagact	180
gcgaacctca cttctagact ttcacgggtg gacgaaacgg gtccagaaac tgcaggggc	240
ctcatcacagg gatatcaaaa taccctttgt gctaccagg cctgggggaa tcagggtgact	300
cacacaaatg caatagttgg tcaactgcatt tttacctgaa ccaaagctaa acccggtgtt	360
gccaccatgc accatggcat gccagagttc aacactgttg ctcttgaaaa ttgggtctga	420
aaaaacgcac aagagccct gccctgccct agctgangca c	461

<210> 325

<211> 400

<212> DNA

<213> Homo sapien

<400> 325

acactgtttc catgttatgt ttctacacat tgctacctca gtgctcctgg aaacttagct	60
tttgatgtct ccaagtagtc caccttcatt taactctttg aaactgtatc atctttgcca	120
agtaagagtg gtggcctatt tcagctgctt tgacaaaatg actggctcct gacttaacgt	180
tctataaatg aatgtgctga agcaaagtgc ccatgggtggc ggcgaagaag agaaagatgt	240
gttttgtttt ggactctctg tggctccttc caatgctgtg ggtttccaac caggggaagg	300
gtcccttttg cattgccaag tgccataacc atgagcacta cgctaccatg gttctgcctc	360
ctggccaagc aggtgtgttt gcaagaatga aatgaatgat	400

<210> 326

<211> 1215

<212> DNA

<213> Homo sapien

<400> 326

ggaggactgc agcccgact cgcagccctg gcaggcgga ctggctcatgg aaaacgaatt	60
gttctgctcg ggcgtcctgg tgcacccgca gtgggtgctg tcagccgcac actgtttcca	120
gaactcctac accatcgggc tgggcctgca cagtcttgag gccgaccaag agccaggag	180

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ccagatggtg gaggccagcc tctccgtacg gcacccagag tacaacagac ccttgctcgc 240
taacgacctc atgctcatca agttggacga atccgtgtcc gactctgaca ccatccggag 300
catcagcatt gcttcgcagt gccctaccgc ggggaactct tgccctcggtt ctggctgggg 360
tctgctggcg aacggcagaa tgcctaccgt gctgcagtgc gtgaacgtgt cggtggtgtc 420
tgaggaggtc tgcagtaagc tctatgaccc gctgtaccac ccagcatgt tctgcgccgg 480
cggagggcaa gaccagaagg actcctgcaa cggtgactct ggggggcccc tgatctgcaa 540
cgggtacttg cagggccttg tgtcttttcgg aaaagccccg tgtggccaag ttggcgtgcc 600
aggtgtctac accaacctct gcaaattcac tgagtggata gagaaaaccg tccaggccag 660
ttaactctgg ggactgggaa cccatgaaat tgacccccaa atacatcctg cggagggaat 720
tcaggaatat ctgttcccag cccctcctcc ctcaggccca ggagtccagg cccccagccc 780
ctcctccctc aaaccaaggg tacagatccc cagcccctcc tccctcagac ccaggagtcc 840
agacccccca gcccctcctc cctcagaccc aggagtccag cccctcctcc ctcagaccca 900
ggagtccaga cccccagcc cctcctccct cagaccaggg ggtccaggcc cccaaccctt 960
cctccctcag actcagaggt ccaagccccc aacccctcct tccccagacc cagaggtcca 1020
ggtcccagcc cctcctccct cagaccaggg ggtccaatgc cacctagact ctccctgtac 1080
acagtgcccc cttgtggcac gttgacccaa ccttaccagt tggtttttca ttttttgtcc 1140
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aaaaaaaaaa aaaaaa

```

<210> 327  
 <211> 220  
 <212> PRT  
 <213> Homo sapien

```

<400> 327
Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met
1      5      10      15
Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val
20     25     30
Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
35     40     45
Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
50     55     60
Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
65     70     75     80
Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
85     90     95
Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
100    105    110
Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
115    120    125
Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
130    135    140
Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
145    150    155    160
Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
165    170    175
Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
180    185    190
Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
195    200    205
Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
210    215    220

```

<210> 328

<211> 234  
 <212> DNA  
 <213> Homo sapien

<400> 328  
 cgctcgtctc tggtagctgc agccaaatca taaacggcga ggactgcagc ccgcactcgc 60  
 agccctggca ggcggcactg gtcattgaaa acgaattgtt ctgctcgggc gtccctgggtgc 120  
 atccgcagtg ggtgctgtca gccacacact gttccagaa ctctacacc atcgggctgg 180  
 gcctgcacag tcttgaggcc gaccaagagc caggagacca gatggtggag gcc 234

<210> 329  
 <211> 77  
 <212> PRT  
 <213> Homo sapien

<400> 329  
 Leu Val Ser Gly Ser Cys Ser Gln Ile Ile Asn Gly Glu Asp Cys Ser  
 1 5 10 15  
 Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met Glu Asn Glu Leu  
 20 25 30  
 Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Thr  
 35 40 45  
 His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu  
 50 55 60  
 Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala  
 65 70 75

<210> 330  
 <211> 70  
 <212> DNA  
 <213> Homo sapien

<400> 330  
 cccaacacaa tggcccgatc ccatccctga ctccgccctc aggatcgctc gtctctggta 60  
 gctgcagcca 70

<210> 331  
 <211> 22  
 <212> PRT  
 <213> Homo sapien

<400> 331  
 Gln His Asn Gly Pro Ile Pro Ser Leu Thr Pro Pro Ser Gly Ser Leu  
 1 5 10 15  
 Val Ser Gly Ser Cys Ser  
 20

<210> 332  
 <211> 2507  
 <212> DNA  
 <213> Homo sapien

<400> 332  
 tgggtgccgct gcagccggca gagatggttg agctcatgtt cccgctgttg ctctccttc 60  
 tgccttctct tctgtatatg gctgcgcccc aaatcaggaa aatgctgtcc agtgggggtg 120



gtacatcaac	tgttcagctt	cctgggaaaag	tagttgtggt	cacaggagct	aatacaggta	180
tcgggaagga	gacagccaaa	gagctggctc	agagaggagc	tcgagtatat	ttagcttgcc	240
gggatgtgga	aaagggggaa	ttggtggcca	aagagatcca	gaccacgaca	gggaaccagc	300
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&lt;210&gt; 333

&lt;211&gt; 3030

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 333

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&lt;210&gt; 334

&lt;211&gt; 2417

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 334

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&lt;210&gt; 335

&lt;211&gt; 2984

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 335

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&lt;210&gt; 336

&lt;211&gt; 147

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 336

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Pro	Lys	Gln	Pro	Gln	Lys	Arg	Ser	Arg	Ala	Ala	Phe	Ser	His	Thr	Gln
			35					40					45		
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Pro	Glu	Arg	Ala	His	Leu	Ala	Lys	Asn	Leu	Lys	Leu	Thr	Glu	Thr	Gln
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Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln  
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 Leu Ser Ser Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala  
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 Leu Lys Glu Glu Ala Phe Ser Arg Ala Ser Leu Val Ser Val Tyr Asn  
                     115                    120                    125  
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 Ala Phe Trp  
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<400> 338  
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 <212> PRT  
 <213> Homo sapien

<400> 339  
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                     20                    25                    30  
 Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Val Thr Gly  
                     35                    40                    45  
 Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg  
   50                    55                    60  
 Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu  
  65                    70                    75                    80  
 Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val Leu Val  
                     85                    90                    95  
 Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Lys  
                     100                    105                    110  
 Gly Phe Leu Ala Glu Glu Lys His Leu His Val Leu Ile Asn Asn Ala  
                     115                    120                    125  
 Gly Val Met Met Cys Pro Tyr Ser Lys Thr Ala Asp Gly Phe Glu Met  
                     130                    135                    140  
 His Ile Gly Val Asn His Leu Gly His Phe Leu Leu Thr His Leu Leu

145                      150                      155                      160  
 Leu Glu Lys Leu Lys Glu Ser Ala Pro Ser Arg Ile Val Asn Val Ser  
                                  165                      170                      175  
 Ser Leu Ala His His Leu Gly Arg Ile His Phe His Asn Leu Gln Gly  
                                  180                      185                      190  
 Glu Lys Phe Tyr Asn Ala Gly Leu Ala Tyr Cys His Ser Lys Leu Ala  
                                  195                      200                      205  
 Asn Ile Leu Phe Thr Gln Glu Leu Ala Arg Arg Leu Lys Gly Ser Gly  
                                  210                      215                      220  
 Val Thr Thr Tyr Ser Val His Pro Gly Thr Val Gln Ser Glu Leu Val  
 225                                   230                                   235                                   240  
 Arg His Ser Ser Phe Met Arg Trp Met Trp Trp Leu Phe Ser Phe Phe  
                                  245                                   250                                   255  
 Ile Lys Thr Pro Gln Gln Gly Ala Gln Thr Ser Leu His Cys Ala Leu  
                                  260                                   265                                   270  
 Thr Glu Gly Leu Glu Ile Leu Ser Gly Asn His Phe Ser Asp Cys His  
                                  275                                   280                                   285  
 Val Ala Trp Val Ser Ala Gln Ala Arg Asn Glu Thr Ile Ala Arg Arg  
                                  290                                   295                                   300  
 Leu Trp Asp Val Ser Cys Asp Leu Leu Gly Leu Pro Ile Asp  
 305                                   310                                   315

<210> 340  
 <211> 483  
 <212> DNA  
 <213> Homo sapien

<400> 340  
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 ctctgtctgc aggtctggagt gtctttattc ctggcgggag accgcacatt ccaactgctga 180  
 ggttgtgggg gcggttttatc aggcagtgat aaacataaga tgtcatttcc ttgactccgg 240  
 ccttcaattt tctctttggc tgacgacgga gtccgtgggtg tcccgatgta actgacctc 300  
 gctccaaacg tgacatcact gatgctcttc tcgggggtgc tgatggcccg cttgggtcacg 360  
 tgctcaatct cgccattcga ctcttgctcc aaactgtatg aagacacctg actgcacgtt 420  
 ttttctgggc ttccagaatt taaagtgaag ggcagcactc ctaagctccg actccgatgc 480  
 ctg 483

<210> 341  
 <211> 344  
 <212> DNA  
 <213> Homo sapien

<400> 341  
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 tatttttact aaccattcta tttttataga aatagctgag agtttctaaa ccaactctct 120  
 gctgccttac aagtattaaa tattttactt cttccataa agagtagctc aaaatatgca 180  
 attaatttaa taatttctga tgatggtttt atctgcagta atatgtatat catctattag 240  
 aatttactta atgaaaaact gaagagaaca aaatttgtaa ccactagcac ttaagtactc 300  
 ctgattctta acattgtctt taatgaccac aagacaacca acag 344

<210> 342  
 <211> 592  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 342

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cctggcaggt	aaaccaatgc	caagagagtg	atggaaacca	ttggcaagac	tttgttgatg	180
accaggattg	gaattttata	aaaatattgt	tgatgggaag	ttgctaaagg	gtgaattact	240
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aagtgccact	gtggaaagag	ttcctgtgtg	tgctgaagtt	ctgaaggcca	gtcaaattca	360
tcagcatggg	ctgtttgggtg	caaatgcaaa	agcacaggtc	tttttagcat	gctgggtctct	420
cccgtgtcct	tatgcaaata	atcgtcttct	tctaaatttc	tcctaggctt	cattttccaa	480
agttcttctt	ggtttgtgat	gtcttttctg	ctttccatta	attctataaa	atagtatggc	540
ttcagccacc	cactcttcgc	cttagcttga	ccgtgagtc	cggctgccgc	tg	592

&lt;210&gt; 343

&lt;211&gt; 382

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 343

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ggggtagttg	gaagggactg	aaattgtggg	gggaaggtag	gaggcacatc	aataaagagg	360
aaaccaccaa	gctgaaaaaa	aa				382

&lt;210&gt; 344

&lt;211&gt; 536

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 344

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ccttcttatt	atttgatcta	gaaattgccc	tcctttttacc	cctaccatga	gccctacaaa	420
caactaacct	gccactaata	gttatgtcat	ccctcttatt	aatcatcatc	ctagccctaa	480
gtctggccta	tgagtgacta	caaaaaggat	tagactgagc	cgaataacaa	aaaaaa	536

&lt;210&gt; 345

&lt;211&gt; 251

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 345

accttttgag	gtctctctca	ccacctccac	agccaccgtc	accgtgggat	gtgctggatg	60
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gcgtggggcca	ggaaatcaca	tcctacactg	cccaggagcc	agacacattt	atggaacaga	180
aaataacata	tcggatttgg	agagacactg	ccaactggct	ggagattaat	ccggacactg	240
gtgccatttc	c					251

<210> 346  
 <211> 282  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(282)  
 <223> n = A,T,C or G

<400> 346  
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 ctaagtcttg ttaccaaaaa aaggaaaaag aaaagatctt ctcagttaca aattctggga 120  
 agggagacta tacctggctc ttgccctaag tgagaggtct tccctcccgc accaaaaaat 180  
 agaaaggctt tctatttcac tggcccaggt agggggaagg agagtaactt tgagtctgtg 240  
 ggtctcattt cccaaggtgc cttcaatgct catnaaaacc aa 282

<210> 347  
 <211> 201  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(201)  
 <223> n = A,T,C or G

<400> 347  
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 tctgagactg actggaccca cccagaccca gggcaaagat acatgttacc atatcatctt 180  
 tataaagaat ttttttttgc c 201

<210> 348  
 <211> 251  
 <212> DNA  
 <213> Homo sapien

<400> 348  
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 agagagaaca gtgccagaat gaaactgacc ctaagtccca ggtgcccctg ggcaggcaga 120  
 aggagacact cccagcatgg aggagggtt atcttttcat cctaggtcag gtctacaatg 180  
 ggggaagggtt ttattataga actcccaaca gccacctca ctctgccac ccacccgatg 240  
 gccctgcctc c 251

<210> 349  
 <211> 251  
 <212> DNA  
 <213> Homo sapien

<400> 349  
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 aacccctgag gatgccagag ctatgggtcc agaacatggt gtggtattat caacagagtt 120  
 cagaagggtc tgaactctac gtgttaccag agaacataat gcaattcatg cattccactt 180  
 agcaattttg taaaatacca gaaacagacc ccaagagtct ttcaagatga ggaaaattca 240



actcctgggtt t

251

&lt;210&gt; 350

&lt;211&gt; 908

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 350

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agcccgcccg	gtgaagctcg	ctgctttccc	tacctcctta	agtgactgcc	aaacgcccac	120
cggctggaat	tgctctgggt	atgatgacag	agaaaatgat	ctcttcctct	gtgacaccaa	180
cacctgtaaa	tttgatgggg	aatgtttaag	aattggagac	actgtgactt	gcgtctgtca	240
gttcaagtgc	aacaatgact	atgtgcctgt	gtgtggctcc	aatggggaga	gctaccagaa	300
tgagtgttac	ctgcgacagg	ctgcatgcaa	acagcagagt	gagatacttg	tggtgtcaga	360
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catgtctttg	ggtcgatgtc	aagataacac	aactacaact	actaagtctg	aagatgggca	660
ttatgcaaga	acagattatg	cagagaatgc	taacaaatta	gaagaaagtg	ccagagaaca	720
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aatcgcgag						908

&lt;210&gt; 351

&lt;211&gt; 472

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 351

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gtcaaaccct	aatgccattg	ttattgtgaa	ttaggattaa	gtagtaattt	tcaaaattca	120
cattaacttg	attttaaaa	cagwtttgyg	agtcatttac	cacaagctaa	atgtgtacac	180
tatgataaaa	acaaccattg	tattcctgtt	tttctaaaca	gtcctaattt	ctaactctgt	240
atatatcctt	cgacatcaat	gaacttttgt	ttcttttact	ccagtaataa	agtaggcaca	300
gatctgtcca	caacaaactt	gccctctcat	gccttgccctc	tcaccatgct	ctgctccagg	360
tcagccccct	tttggcctgt	ttgttttgtc	aaaaacctaa	tctgcttctt	gcttttcttg	420
gtaatatata	tttagggaag	atgttgcttt	gccacacac	gaagcaaagt	aa	472

&lt;210&gt; 352

&lt;211&gt; 251

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 352

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caggctgcgt	tccgtcctta	cgatgaagac	cacgatgcag	tttccaaaca	ttgccactac	180
atacatggaa	aggaggggga	agccaaccca	gaaatgggct	ttctctaate	ctgggatacc	240
aataagcaca	a					251

&lt;210&gt; 353

&lt;211&gt; 436

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 353

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cacattatgg	tattattact	atactgatta	tatttatcat	gtgacttcta	attaraaaat	120
gtatccaaaa	gcaaaacagc	agatatata	aattaaagag	acagaagata	gacattaaca	180
gataaggcaa	cttatacatt	gacaatccaa	atccaatata	tttaaacatt	tgggaaatga	240
ggggggacaaa	tgggaagccar	atcaaatttg	tgtaaaacta	ttcagtatgt	ttcccttgct	300
tcattgtctga	raaggctctc	ccttcaatgg	ggatgacaaa	ctccaaatgc	cacacaaatg	360
ttaacagaat	actagattca	cactggaacg	ggggtaaaga	agaaattatt	ttctataaaa	420
gggctcctaa	tgtagt					436

&lt;210&gt; 354

&lt;211&gt; 854

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 354

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atcaggggacc	accctttggg	ttgatatttt	gcttaatctg	catcttttga	gtaagatcat	180
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&lt;210&gt; 355

&lt;211&gt; 676

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 355

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cagggtcaaag	ctgatctttc	tggaaatgtca	ccaaccaagg	gcctatatatt	atcaaaagcc	120
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gcttaaagaa	aaccag					676

&lt;210&gt; 356

&lt;211&gt; 574

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 356

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aaaagtccac	aaaactgcag	tctttgctgg	gatagtaagc	caagcagtgc	ctggacagca	300
gagttctttt	cttgggcaac	agataaccag	acaggactct	aatcgtgctc	ttattcaaca	360
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agatacaagc	tcgtttacat	gtgatagatc	taacaaaggc	atctaccgaa	gtctggtctg	480
gatacacggc	acagggagct	cttaggtcag	cgctgctggg	tggaggacat	tcctgagtcc	540
agctttgcag	cctttgtgca	acagtacttt	ccca			574

&lt;210&gt; 357

&lt;211&gt; 393

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 357

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gcataatctg	tacaaaatta	aactgtcctt	tttggcattt	taacaaattt	gcaacgktct	360
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&lt;210&gt; 358

&lt;211&gt; 630

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 358

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gaaagacaaa	aataagtggg	gaaattcagg	ggatagtga	aatcagtagg	acttaatgag	600
caagccagag	gttcctccac	aacaaccagt				630

&lt;210&gt; 359

&lt;211&gt; 620

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 359

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aacaaaaagc	tcacaccaaa	caaaaccatc	aacttatttt	gtattctata	acatacgaga	600
ctgtaaagat	gtgacagtgt					620

&lt;210&gt; 360

&lt;211&gt; 431

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 360

aaaaaaaaaa	agccagaaca	acatgtgata	gataaatatga	ttggctgcac	acttccagac	60
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agtggacatg	cagtggcaga	gctcctggta	accacctaga	ggaatacaca	ggcacatgtg	360
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agattcttag	t					431

&lt;210&gt; 361

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 361

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&lt;210&gt; 362

&lt;211&gt; 463

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 362

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cacacttgca	cacattctcc	ctgataagca	cgatgggtgt	gacaggaagg	aaggatttca	420
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&lt;210&gt; 363

&lt;211&gt; 653

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(653)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 363

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&lt;210&gt; 364

&lt;211&gt; 401

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 364

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&lt;210&gt; 365

&lt;211&gt; 356

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 365

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&lt;210&gt; 366

&lt;211&gt; 1851

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 366

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&lt;210&gt; 367

&lt;211&gt; 668

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 367

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aaaaaaaa						668

&lt;210&gt; 368

&lt;211&gt; 1512

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 368

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&lt;210&gt; 369

&lt;211&gt; 1853

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 369

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&lt;210&gt; 370

&lt;211&gt; 2184

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 370

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<210> 371  
<211> 1855  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> (1)...(1855)  
<223> n = A,T,C or G

<400> 371

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<212> DNA  
<213> Homo sapien

<400> 372

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&lt;210&gt; 373

&lt;211&gt; 1155

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 373

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&lt;210&gt; 374

&lt;211&gt; 2000

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 374

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&lt;210&gt; 375

&lt;211&gt; 2040

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 375

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&lt;210&gt; 376

&lt;211&gt; 329

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 376

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Glu Tyr Thr Ile Val His Ala Ser Phe Ile Ser Cys Ile Ser Ser Ser
35     40     45
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Pro Gln Arg Leu Leu Cys Glu Asp Ala Trp Glu Gln Glu Val Gln Val
65     70     75     80
Val Leu Pro Leu Leu Pro Leu Leu Gln Gly Ser Gly Lys Ser Asn Val
85     90     95
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100    105    110
His Val His Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp
115    120    125
Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
130    135    140
Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
145    150    155    160
Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
165    170    175
Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
180    185    190
Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly
195    200    205
Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr
210    215    220
Ala Val Tyr Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr
225    230    235    240
Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu
245    250    255
Leu Gly Ile His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys
260    265    270
Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu
275    280    285
Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu

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<210> 377  
 <211> 148  
 <212> PRT  
 <213> Homo sapien

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 35 40 45  
 Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu  
 50 55 60  
 Val Val Lys Leu Xaa Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp  
 65 70 75 80  
 Asn Lys Lys Arg Thr Ala Leu Xaa Lys Ala Val Gln Cys Gln Glu Asp  
 85 90 95  
 Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro  
 100 105 110  
 Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Xaa Tyr Asn Glu Asp  
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 Lys Leu Met Ala Lys Ala Leu Leu Tyr Gly Ala Asp Ile Glu Ser  
 130 135 140  
 Lys Asn Lys Val  
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<210> 378  
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 <212> PRT  
 <213> Homo sapien

<400> 378  
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 35 40 45  
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp  
 50 55 60  
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val  
 65 70 75 80  
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn

85 90 95  
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 100 105 110  
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe  
 115 120 125  
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His  
 130 135 140  
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met  
 145 150 155 160  
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala  
 165 170 175  
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu  
 180 185 190  
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr  
 195 200 205  
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met  
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 225 230 235 240  
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys  
 245 250 255  
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly  
 260 265 270  
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val  
 275 280 285  
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr  
 290 295 300  
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile  
 305 310 315 320  
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu  
 325 330 335  
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val  
 340 345 350  
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile  
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 Ser Ser Glu Asn Ser Asn Pro Glu Asn Val Ser Arg Thr Arg Asn Lys  
 370 375 380  
 Pro Arg Thr His Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser  
 385 390 395 400  
 Ser Val Lys Lys Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys  
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 Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly  
 420 425 430  
 Thr Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys  
 435 440 445  
 Met Gly Lys Trp Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly  
 450 455 460  
 Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys  
 465 470 475 480  
 Thr Leu Arg Asn Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys  
 485 490 495  
 Cys Arg Gly Ser Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp  
 500 505 510  
 Asp Ser Ala Phe Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu  
 515 520 525

Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp  
 530 535 540  
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 545 550 555 560  
 Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val  
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 Val Lys Leu Leu Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn  
 580 585 590  
 Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu  
 595 600 605  
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 770 775 780  
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 785 790 795 800  
 Arg Glu Val Glu Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly  
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 900 905 910  
 Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn  
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 995 1000 1005  
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 Gly Lys Trp Cys Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys  
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 Ser Asn Val Gly Thr Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr  
 1090 1095 1100  
 Leu Arg Ser Lys Met Gly Lys Trp Cys Arg His Cys Phe Pro Cys Cys  
 1105 1110 1115 112  
 Arg Gly Ser Gly Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Asp  
 1125 1130 1135  
 Ser Ala Met Lys Thr Leu Arg Asn Lys Met Gly Lys Trp Cys Cys His  
 1140 1145 1150  
 Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Lys Val Gly Ala Trp  
 1155 1160 1165  
 Gly Asp Tyr Asp Asp Ser Ala Phe Met Glu Pro Arg Tyr His Val Arg  
 1170 1175 1180  
 Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val  
 1185 1190 1195 120  
 Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys  
 1205 1210 1215  
 Lys Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly  
 1220 1225 1230  
 Asn Ser Glu Val Val Lys Leu Leu Leu Asp Arg Arg Cys Gln Leu Asn  
 1235 1240 1245  
 Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys  
 1250 1255 1260  
 Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro  
 1265 1270 1275 128  
 Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr  
 1285 1290 1295  
 Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp  
 1300 1305 1310  
 Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Val  
 1315 1320 1325  
 His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala  
 1330 1335 1340  
 Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala  
 1345 1350 1355 136  
 Val Cys Cys Gly Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn  
 1365 1370 1375  
 Ile Asp Val Ser Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr  
 1380 1385 1390  
 Ala Val Ser Ser His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr  
 1395 1400 1405



Lys Glu Lys Gln Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu  
 1410 1415 1420  
 Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly  
 1425 1430 1435 144  
 Ser Glu Asn Ser Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn  
 1445 1450 1455  
 Lys Asp Gly Asp Arg Glu Val Glu Glu Glu Met Lys Lys His Glu Ser  
 1460 1465 1470  
 Asn Asn Val Gly Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly  
 1475 1480 1485  
 Asn Gly Asp Asn Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu  
 1490 1495 1500  
 Asn Gln Gln Phe Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys  
 1505 1510 1515 152  
 Glu Leu Val Ser Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser  
 1525 1530 1535  
 Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu  
 1540 1545 1550  
 Ser Gln Arg Leu Glu Gly Ser Glu Asn Gly Gln Pro Glu Lys Arg Ser  
 1555 1560 1565  
 Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Leu Glu Asn Phe  
 1570 1575 1580  
 Met Ala Ile Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe  
 1585 1590 1595 160  
 Pro Glu Asn Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly  
 1605 1610 1615  
 Leu Ile Pro Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro  
 1620 1625 1630  
 Asp Thr Glu Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln  
 1635 1640 1645  
 Lys Gln Phe Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile  
 1650 1655 1660  
 Leu Ile His Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser  
 1665 1670 1675 168  
 Glu Leu Ser Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn  
 1685 1690 1695  
 Ser Thr Leu Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Leu Asp Thr  
 1700 1705 1710  
 Met Lys His Gln Ser Gln Leu  
 1715

&lt;210&gt; 379

&lt;211&gt; 656

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 379

Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys  
 1 5 10 15  
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe  
 20 25 30  
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp  
 35 40 45  
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp  
 50 55 60

Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val  
 65 70 75 80  
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn  
 85 90 95  
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser  
 100 105 110  
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe  
 115 120 125  
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His  
 130 135 140  
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met  
 145 150 155 160  
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala  
 165 170 175  
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu  
 180 185 190  
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr  
 195 200 205  
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met  
 210 215 220  
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn  
 225 230 235 240  
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys  
 245 250 255  
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly  
 260 265 270  
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val  
 275 280 285  
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr  
 290 295 300  
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile  
 305 310 315 320  
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu  
 325 330 335  
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His Val  
 340 345 350  
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile  
 355 360 365  
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu  
 370 375 380  
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys  
 385 390 395 400  
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu  
 405 410 415  
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn  
 420 425 430  
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro  
 435 440 445  
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu  
 450 455 460  
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu  
 465 470 475 480  
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp  
 485 490 495  
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu

500 505 510  
 Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys  
 515 520 525  
 Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly  
 530 535 540  
 Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser  
 545 550 555 560  
 Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr  
 565 570 575  
 His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln  
 580 585 590  
 Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln  
 595 600 605  
 Ile Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys  
 610 615 620  
 Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile  
 625 630 635 640  
 Ala Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu  
 645 650 655

&lt;210&gt; 380

&lt;211&gt; 671

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 380

Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys  
 1 5 10 15  
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe  
 20 25 30  
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp  
 35 40 45  
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp  
 50 55 60  
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val  
 65 70 75 80  
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn  
 85 90 95  
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser  
 100 105 110  
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe  
 115 120 125  
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His  
 130 135 140  
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met  
 145 150 155 160  
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala  
 165 170 175  
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu  
 180 185 190  
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr  
 195 200 205  
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met  
 210 215 220  
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn

225					230					235				240
Thr	Thr	Leu	His	Tyr	Ala	Ile	Tyr	Asn	Glu	Asp	Lys	Leu	Met	Ala
				245					250					255
Ala	Leu	Leu	Leu	Tyr	Gly	Ala	Asp	Ile	Glu	Ser	Lys	Asn	Lys	His
			260					265					270	
Leu	Thr	Pro	Leu	Leu	Leu	Gly	Val	His	Glu	Gln	Lys	Gln	Gln	Val
		275					280						285	
Lys	Phe	Leu	Ile	Lys	Lys	Lys	Ala	Asn	Leu	Asn	Ala	Leu	Asp	Arg
	290					295				300				
Gly	Arg	Thr	Ala	Leu	Ile	Leu	Ala	Val	Cys	Cys	Gly	Ser	Ala	Ser
305					310					315				320
Val	Ser	Leu	Leu	Leu	Glu	Gln	Asn	Ile	Asp	Val	Ser	Ser	Gln	Asp
				325					330					335
Ser	Gly	Gln	Thr	Ala	Arg	Glu	Tyr	Ala	Val	Ser	Ser	His	His	His
			340					345					350	
Ile	Cys	Gln	Leu	Leu	Ser	Asp	Tyr	Lys	Glu	Lys	Gln	Met	Leu	Lys
	355						360					365		
Ser	Ser	Glu	Asn	Ser	Asn	Pro	Glu	Gln	Asp	Leu	Lys	Leu	Thr	Ser
	370				375					380				
Glu	Glu	Ser	Gln	Arg	Phe	Lys	Gly	Ser	Glu	Asn	Ser	Gln	Pro	Glu
385					390					395				400
Met	Ser	Gln	Glu	Pro	Glu	Ile	Asn	Lys	Asp	Gly	Asp	Arg	Glu	Val
				405					410					415
Glu	Glu	Met	Lys	Lys	His	Glu	Ser	Asn	Asn	Val	Gly	Leu	Leu	Glu
		420						425				430		
Leu	Thr	Asn	Gly	Val	Thr	Ala	Gly	Asn	Gly	Asp	Asn	Gly	Leu	Ile
	435						440					445		
Gln	Arg	Lys	Ser	Arg	Thr	Pro	Glu	Asn	Gln	Gln	Phe	Pro	Asp	Asn
	450					455					460			
Ser	Glu	Glu	Tyr	His	Arg	Ile	Cys	Glu	Leu	Val	Ser	Asp	Tyr	Lys
465					470					475				480
Lys	Gln	Met	Pro	Lys	Tyr	Ser	Ser	Glu	Asn	Ser	Asn	Pro	Glu	Gln
				485					490					495
Leu	Lys	Leu	Thr	Ser	Glu	Glu	Glu	Ser	Gln	Arg	Leu	Glu	Gly	Ser
		500						505					510	
Asn	Gly	Gln	Pro	Glu	Lys	Arg	Ser	Gln	Glu	Pro	Glu	Ile	Asn	Lys
	515						520					525		
Gly	Asp	Arg	Glu	Leu	Glu	Asn	Phe	Met	Ala	Ile	Glu	Glu	Met	Lys
	530					535				540				
His	Gly	Ser	Thr	His	Val	Gly	Phe	Pro	Glu	Asn	Leu	Thr	Asn	Gly
545					550					555				560
Thr	Ala	Gly	Asn	Gly	Asp	Asp	Gly	Leu	Ile	Pro	Pro	Arg	Lys	Ser
			565					570					575	
Thr	Pro	Glu	Ser	Gln	Gln	Phe	Pro	Asp	Thr	Glu	Asn	Glu	Glu	Tyr
		580						585					590	
Ser	Asp	Glu	Gln	Asn	Asp	Thr	Gln	Lys	Gln	Phe	Cys	Glu	Glu	Gln
	595					600						605		
Thr	Gly	Ile	Leu	His	Asp	Glu	Ile	Leu	Ile	His	Glu	Glu	Lys	Gln
	610					615					620			
Glu	Val	Val	Glu	Lys	Met	Asn	Ser	Glu	Leu	Ser	Leu	Ser	Cys	Lys
625					630					635				640
Glu	Lys	Asp	Ile	Leu	His	Glu	Asn	Ser	Thr	Leu	Arg	Glu	Glu	Ile
			645					650						655
Met	Leu	Arg	Leu	Glu	Leu	Asp	Thr	Met	Lys	His	Gln	Ser	Gln	Leu
		660						665					670	

<210> 381  
<211> 251  
<212> DNA  
<213> Homo sapien

<400> 381

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ccaatatccc	aggagaagca	ttggggagtt	gggggcaggt	gaaggacca	ggactcacac	180
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caagcagtca	g					251

<210> 382  
<211> 3279  
<212> DNA  
<213> Homo sapiens

<400> 382

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cctcagcttc	tccctccac	tccatcctcc	atctggcctc	agtgggtcat	tctgatcact	660
gaactgacca	taccagccc	tgcccacggc	cctccatggc	tccccaatgc	cctggagagg	720
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gcattaccgg	aagtggatca	aggacaccat	cgcagccaac	ccctgagtgc	ccctgtccca	1260
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tgtttgtggg	gtgcagagat	gggaggggtg	gggcccaccc	tggaagagtg	gacagtgaca	1620
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gcatatccga cagttattct ctccaagtgg agacttacgg acagcatata attctccctg 2220
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gtgtccaggg tttttactgg gggctctgtag gacgagtatg gagtacttga ataattgacc 2340
tgaagtcctc agacctgagg ttccctagag ttcaaacaga tacagcatgg tccagagtcc 2400
cagatgtaca aaaacagggg ttcatcacaa atcccatctt tagcatgaag ggtctggcat 2460
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ggcaagattt tgtggcactc ctggttacag atactggggc agcaaataaa actgaatctt 3240
gttttcagac cttaaaaaaa aaaaaaaaaa aaaagtttt 3279

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&lt;210&gt; 383

&lt;211&gt; 155

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 383

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Met Ala Gly Val Arg Asp Gln Gly Gln Gly Ala Arg Trp Pro His Thr
      5              10              15

Gly Lys Arg Gly Pro Leu Leu Gln Gly Leu Thr Trp Ala Thr Gly Gly
      20              25              30

His Cys Phe Ser Ser Glu Glu Ser Gly Ala Val Asp Gly Ala Gly Gln
      35              40              45

Lys Lys Asp Arg Ala Trp Leu Arg Cys Pro Glu Ala Val Ala Gly Phe
      50              55              60

Pro Leu Gly Ser Asp Cys Arg Glu Gly Gly Arg Gln Gly Cys Gly Gly
      65              70              75              80

Ser Asp Asp Glu Asp Asp Leu Gly Val Ala Pro Gly Leu Ala Pro Ala
      85              90              95

Trp Ala Leu Thr Gln Pro Pro Ser Gln Ser Pro Gly Pro Gln Ser Leu
      100             105             110

Pro Ser Thr Pro Ser Ser Ile Trp Pro Gln Trp Val Ile Leu Ile Thr
      115             120             125

Glu Leu Thr Ile Pro Ser Pro Ala His Gly Pro Pro Trp Leu Pro Asn
      130             135             140

Ala Leu Glu Arg Gly His Leu Val Arg Glu
      145             150

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<210> 384  
<211> 557  
<212> DNA  
<213> Homo sapiens

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ggggaagggt cccttttgca ttgccaagtg ccataaccat gagcactact ctaccatggg 180  
tctgcctcct ggccaagcag gctggtttgc aagaatgaaa tgaatgattc tacagctagg 240  
acttaacctt gaaatggaaa gtcttgcaat cccatttgca ggatccgtct gtgcacatgc 300  
ctctgtagag agcagcattc ccagggacct tggaaacagt tggcactgta aggtgcttgc 360  
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ccttcttatt tatgtgaaca actgtttgtc tttttttgta tcttttttaa actgtaaagt 480  
tcaattgtga aaatgaatat catgcaaata aattatgcga ttttttttcc aaagtaaaaa 540  
aaaaaaaaaa aaaaaaa 557

<210> 385  
<211> 337  
<212> DNA  
<213> Homo sapiens

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tctcaaagcc atctgctgtc ttcgagtacg gacacatcat cactcctgca ttgttgatca 180  
aaacgtggag gtgcttttcc tcagctaaga agcccttagc aaaagctcga atagacctag 240  
tatcagacag gtccagtttc cgcaccaaca cctgctgggt ccctgtcgtg gtctggatct 300  
ctttggccac caattcccc tttccacat cccggca 337

<210> 386  
<211> 300  
<212> DNA  
<213> Homo sapiens

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gcccgtctcg cccagagggg gggcgcgggg ctgcctctac cggctggcgg ctgtaactca 120  
gcgaccttgg cccgaaggct ctagcaagga cccaccgacc ccagccgcgg cggcggcggc 180  
gcggaacttg cccggtgtgt ggggcggagc ggactgcgtg tccgcggacg ggcagcgaag 240  
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<210> 387  
<211> 537  
<212> DNA  
<213> Homo sapiens

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ccccctcctg tgccatcatg atcagcacct atgagttcgg caaaagcttc ttccagaggc 120  
tgaaccagga ccggttctg ggcggctgaa aggggcaagg aggcaaggac cccgtctctc 180  
ccacggatgg ggagagggca ggaggagacc cagccaagtg ctttttcctc agcactgagg 240  
gaggggggctt gtttcccttc cctcccggcg acaagctcca gggcagggct gtccctctgg 300

gcggcccagc acttcctcag acacaacttc ttcctgctgc tccagtcgtg gggatcatca 360  
 cttaccacc ccccaagttc aagaccaaact cttccagctg ccccttcgt gtttcctgt 420  
 gtttgctgta gctgggcatg tctccaggaa ccaagaagcc ctcagcctgg ttagtctcc 480  
 ctgacccttg ttaattcctt aagtctaaag atgatgaact tcaaaaaaaaa aaaaaa 537

<210> 388

<211> 520

<212> DNA

<213> Homo sapiens

<400> 388

aggataattt ttaaaccaat caaatgaaaa aaacaaacaa acaaaaaagg aaatgtcatg 60  
 tgagggttaa ccagtttgca tccccctaat gtggaaaaag taagaggact actcagcact 120  
 gtttgaagat tgcctcttct acagcttctg agaattgtgt tatttcactt gccaagtga 180  
 ggacccccct cccaacatgc cccagccac ccctaagcat ggtcccttgt caccaggcaa 240  
 ccaggaaact gctacttgtg gacctacca gagaccagga gggtttggtt agctcacagg 300  
 acttccccca cccagaaga ttagcatccc atactagact cataactcaac tcaactaggc 360  
 tcatactcaa ttgatgggta ttagacaatt ccatttcttt ctggttatta taaacagaaa 420  
 atctttcttc ttctcattac cagtaaaggc tcttggtatc tttctgttgg aatgatttct 480  
 atgaacttgt cttattttta tgggtgggtt ttttctggt 520

<210> 389

<211> 365

<212> DNA

<213> Homo sapiens

<400> 389

cgttgcccc gtttgacaga aggaaaggcg gagcttattc aaagtctaga gggagtggag 60  
 gagttaaggc tggatttcag atctgcctgg tccagccgc agtggtgccct ctgctcccc 120  
 aacgactttc caaataatct caccagcgcc tccagctca ggcgtcctag aagcgtcttg 180  
 aagcctatgg ccagctgtct ttgtgttccc tctacccgc ctgtcctcac agctgagact 240  
 cccaggaaac cttcagacta ctttctctg cttcagcaa ggggcgttgc ccacattctc 300  
 tgagggtcag tggaagaacc tagactccca ttgctagagg tagaaagggg aagggtgctg 360  
 gggag 365

<210> 390

<211> 221

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(221)

<223> n = A,T,C or G

<400> 390

tgcctctcca tcttgcccc gacttctctg tcaggaaagt ggggatggac cccatctgca 60  
 tacacggnnt ctcatgggtg tggaacatct ctgcttgccg ttccaggaag gcctctggct 120  
 gctctangag tctgancga ntcgttgccc cantntgaca naaggaaagg cggagcttat 180  
 tcaaagtcta gagggagtgg aggagttaag gctggatttc a 221

<210> 391

<211> 325

<212> DNA

<213> Homo sapiens



<220>  
 <221> misc\_feature  
 <222> (1)...(325)  
 <223> n = A,T,C or G

<400> 391  
 tggagcaggt cccgaggcct ccctagagcc tggggccgac tctgtgncga tgcangcttt 60  
 ctctcgcgcc cagcctggag ctgctcctgg catctaccaa caatcagncg aggcgagcag 120  
 tagccagggc actgctgccca acagccagtc cnnataccat catgtnaccc ggtgngctct 180  
 naanttn gat ntccanagcc ctacccatcn tagttctgct ctcccaccgg ntaccagccc 240  
 cactgcccag gaatcctaca gccagtaccc tgtcccgcag tctctaccta ccagtacgat 300  
 gagacctccg gctactacta tgacc 325

<210> 392  
 <211> 277  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(277)  
 <223> n = A,T,C or G

<400> 392  
 atattgttta actccttctt ttatatcttt taacattttc atggngaaaag gttcacatct 60  
 agtctcactt nggenagn gn ctcctacttg agtctcttcc ccggcctggn ccagtngnaa 120  
 antaccanga accgncatgn cttaanaacn ncctgggttn tgggttnntc aatgactgca 180  
 tgcagtgcac caccctgtcc actacgtgat gctgtaggat taaagtctca cagtgggcgg 240  
 ctgaggatac agcgccgcgt cctgtgttgc tggggaa 277

<210> 393  
 <211> 566  
 <212> DNA  
 <213> Homo sapiens

<400> 393  
 actagtcag tgtgggtggaa ttcgcggccg cgtcgacgga caggtcagct gtctggctca 60  
 gtgatctaca ttctgaagtt gtctgaaaat gtcttcatga ttaaattcag cctaaacgtt 120  
 ttgccgggaa cactgcagag acaatgctgt gagtttccaa ccttagccca tctgcccggca 180  
 gagaaggctct agtttgtcca tcagcattat catgatata ggactggta cttgggttaag 240  
 gaggggtcta ggagatctgt cccttttaga gacaccttac ttataatgaa gtatttggga 300  
 ggggtggttt caaaagtaga aatgtcctgt attccgatga tcatcctgta aacattttat 360  
 catttattaa tcatccctgc ctgtgtctat tattatattc atatctctac gctggaaact 420  
 ttctgcctca atgtttactg tgcctttgtt tttgctagtt tgtgttgttg aaaaaaaaaa 480  
 cattctctgc ctgagtttta atttttgtcc aaagttattt taatctatac aattaaaagc 540  
 ttttgcctat caaaaaaaaa aaaaaa 566

<210> 394  
 <211> 384  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature

<222> (1)... (384)

<223> n = A,T,C or G

<400> 394

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gaacatacat gtcccggcac ctgagctgca gtctgacatc atcgccatca cgggcctcgc 60
tgcaaattng gaccgggcca aggctggact gctggagcgt gtgaaggagc tacaggccna 120
gcaggaggac cgggctttta ggagttttta gctgagtgtc actgtagacc ccaaatacca 180
tccaagatt atcgggagaa agggggcagt aattacccaa atccggttgg agcatgacgt 240
gaacatccag tttcctgata aggacgatgg gaaccagccc caggaccaa ttaccatcac 300
aggggtacgaa aagaacacag aagctgccag ggatgctata ctgagaattg tgggtgaact 360
tgagcagatg gtttctgagg acgt                                     384
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<210> 395

<211> 399

<212> DNA

<213> Homo sapiens

<400> 395

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ggcaaaactg tgtgacctca ataagacctc gcagatccaa ggtcaagtat cagaagtgc 60
tgtgaccttg gactccaaga cctacatcaa cagcctggct atattagatg atgagccagt 120
tatcagaggt ttcattcattg cggaaattgt ggagtctaag gaaatcatgg cctctgaagt 180
attcagctct ttcagtagc ctgagttctc tatagagttg cctaacacag gcagaattgg 240
ccagctactt gtctgcaatt gtatcttcaa gaataccctg gccatccctt tgactgacgt 300
caagttctct ttggaaagcc tgggcatctc ctactacag acctctgacc atgggacggg 360
gcagcctggt gagaccatcc aatcccaaat aaaatgcac                                     399
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<210> 396

<211> 403

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)... (403)

<223> n = A,T,C or G

<400> 396

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tggagttntc agtgcaaaca agccataaag cttcagtagc aaattactgt ctcacagaaa 60
gacattttca acttctgctc cagctgctga taaaacaaat catgtgttta gcttgactcc 120
agacaaggac aacctgttcc ttcataactc tctagagaaa aaaaggagtt gttagtagat 180
actaaaaaaaa gtggatgaat aatctggata ttttccctaa aaagattcct tgaaacacat 240
taggaaaatg gagggcctta tgatcagaat gctagaatta gtccattgtg ctgaagcagg 300
gttttagggga gggagtgagg gataaaaagaa ggaaaaaaag aagagtgaga aaacctattt 360
atcaaagcag gtgctatcac tcaatgttag gccctgctct ttt                                     403
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<210> 397

<211> 100

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)... (100)

<223> n = A,T,C or G

&lt;400&gt; 397

actagtncag tgtggtggaa ttcgcggccg cgtcgacctt naanccatct ctatagcaaa 60  
tccatccccg ctcttggttg gtnacagaat gactgacaaa 100

&lt;210&gt; 398

&lt;211&gt; 278

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(278)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 398

gcggccgcgt cgacagcagt tccgccagcg ctgcgccctg ggtgggggatg tgctgcacgc 60  
ccacctggac atctggaagt cagcggcctg gatgaaagag cggacttcac ctggggcgat 120  
tcactactgt gcctcgacca gtgaggagag ctggaccgac agcgaggtgg actcatcatg 180  
ctccgggcag cccatccacc tgtggcagtt cctcaaggag ttgctactca agccccacag 240  
ctatggccgc ttcattangt ggctcaacaa ggagaagg 278

&lt;210&gt; 399

&lt;211&gt; 298

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(298)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 399

acggaggtgg aggaagcgnc cctgggatcg anaggatggg tcctgncatt gaccnccctn 60  
gggggtgccng catggagcgc atggggcgcg gcctgggcca cggcatggat cgcgtgggct 120  
ccgagatcga gcgcattggg ctgggtcatgg accgcatggg ctccgtggag cgcattgggct 180  
ccggcattga gcgcattggg ccgctgggccc tcgaccacat ggccctccanc attgancgca 240  
tgggccagac catggagcgc attgggtctg gcgtggagcn catgggtgcc ggcatggg 298

&lt;210&gt; 400

&lt;211&gt; 548

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 400

acatcaacta cttcctcatt ttaaggtatg gcagttccct tcatcccctt ttctgcctt 60  
gtacatgtac atgtatgaaa tttccttctc ttaccgaact ctctccacac atcacaaggt 120  
caaagaacca cacgcttaga agggtaagag ggcaccctat gaaatgaaat ggtgatttct 180  
tgagtctctt tttccacgt ttaaggggccc atggcaggac ttagagttgc gagttaagac 240  
tgcagagggc tagagaatta tttcatacag gctttgaggc caccatgtc acttatcccc 300  
tataccctct caccatcccc ttgtctactc tgatgcccc aagatgcaac tgggcagcta 360  
gttggcccca taattctggg cttttgttgt ttgttttaat tacttgggca tcccaggaag 420  
ctttccagtg atctcctacc atgggcccc ctcttgggat caagccctc ccaggccctg 480  
tccccagccc ctctgcccc agcccacccg cttgccttgg tgctcagccc tcccattggg 540  
agcaggtt 548

<210> 401  
<211> 355  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(355)  
<223> n = A,T,C or G

<400> 401  
actgtttcca tgttatgttt ctacacattg ctacctcagt gtccttgga acttagcttt 60  
tgatgtctcc aagtagtcca ccttcattta actctttgaa actgtatcat ctttgccaag 120  
taagagtggg ggcctatttc agctgctttg acaaaatgac tggctcctga cttaacgttc 180  
tataaatgaa tgtgctgaag caaagtgtcc atggtggcgg cgaagaagan aaagatgtgt 240  
tttgttttgg actctctgtg gtcccttcca atgctgnggg tttccaacca ggggaagggt 300  
cccttttgca ttgccaagtg ccataaccat gagcactact ctaccatggn tctgc 355

<210> 402  
<211> 407  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(407)  
<223> n = A,T,C or G

<400> 402  
atggggcaag ctggataaag aaccaagacc cactggagta tgctgtcttc aagaaaccca 60  
tctcacatgc ggtggcatac ataggctcaa aataaaggaa tggagaaaaa ttttcaagc 120  
aaatggaaaa cagaaaaaag caggtgttgc actcctactt tctgacaaaa cagactatgc 180  
gaataaagat aaaaaagaga aggacattac aaagggtgtc ctgacctttg ataaatctca 240  
ttgcttgata ccaacctggg ctgttttaat tgcccaaacc aaaaggataa tttgctgagg 300  
ttgtggagct tctcccttgc agagagtccc tgatctccca aaatttggtt gagatgtaag 360  
gntgattttg ctgacaactc cttttctgaa gttttactca tttcaa 407

<210> 403  
<211> 303  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(303)  
<223> n = A,T,C or G

<400> 403  
cagtatttat agccnaactg aaaagctagt agcaggcaag tctcaaattc aggcacaaaa 60  
tcctaagcaa gagccatggc atggtgaaaa tgcaaaaggga gagtctggcc aatctacaaa 120  
tagagaacaa gacctactca gtcataaaca aaaaggcaga caccaacatg gatctcatgg 180  
gggattggat attgtaatta tagagcagga agatgacagt gatcgtcatt tggcacaaca 240  
tcttaacaac gaccgaaacc cattattttac ataaacctcc attcggtaac catgttgaaa 300  
gga 303

<210> 404  
<211> 225  
<212> DNA  
<213> Homo sapiens

<400> 404  
aagtgtaaact tttaaaaatt tagtggattt tgaaaattct tagaggaaaag taaaggaaaa 60  
attgttaatg cactcattta cctttacatg gtgaaagttc tctcttgatc ctacaaacag 120  
acattttcca ctctgttttc catagtgtt aagtgtatca gatgtgttg gcatgtgaat 180  
ctccaagtgc ctgtgtaata aataaagtat ctttatttca ttcac 225

<210> 405  
<211> 334  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(334)  
<223> n = A,T,C or G

<400> 405  
gagctgttat actgtgagtt ctactaggaa atcatcaaact ctgaggggtg tctggaggac 60  
ttcaatacac ctccccccat agtgaatcag cttccagggg gtccagtcct tctccttact 120  
tcattccccat cccatgccaa aggaagaccc tccctccttg gctcacagcc ttctctaggc 180  
ttccccagtc cttccaggaca gagtgggtta tgttttcagc tccatccttg ctgtgagtgt 240  
ctggtgcggt tgtgcctcca gcttctgctc agtgcttcat ggacagtgtc cagcccatgt 300  
cactctccac tctctcanng tggatcccac ccct 334

<210> 406  
<211> 216  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(216)  
<223> n = A,T,C or G

<400> 406  
tttcatacct aatgagggag ttganatnac atnnaaccag gaaatgcatg gatctcaang 60  
gaaacaaaca cccaataaac tcggagtggc agactgacaa ctgtgagaca tgcatttgct 120  
acnaaacaca aatttntatgt tgcacccttg tttctacacc tgtgggttat gacaaagaca 180  
actgccaaag aatnttcaag aaggaggact gccant 216

<210> 407  
<211> 413  
<212> DNA  
<213> Homo sapiens

<400> 407  
gctgacttgc tagtatcacc tgcattcatt gaagcacaag aacttcatgc cttgactcat 60  
gtaaatgcaa taggattaaa aaataaattt gatatcacat ggaaacagac aaaaaatatt 120  
gtacaacatt gcacccagtg tcagattcta cacctggcca ctcaggaagc aagagttaat 180  
cccagaggtc tatgtcctaa tgtgttatgg caaatggatg tcatgcacgt accttcattt 240

ggaaaattgt catttgtcca tgtgacagtt gatacttatt cacatttcat atgggcaacc 300  
 tgccagacag gagaaagtct tcccatgtta aaagacattt attatcttgt ttctctgtca 360  
 tgggagttcc agaaaaagtt aaaacagaca atgggccagg ttctgtagta aag 413

<210> 408

<211> 183

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(183)

<223> n = A,T,C or G

<400> 408

ggagctngcc ctcaattcct ccatntctat gttancatat ttaatgtctt ttgnnattaa 60  
 tncttaacta gttaatcctt aaagggtan ntaatcctta actagtcctt ccattgtgag 120  
 cattatcctt ccagtattcn ccttctnttt tatttactcc ttctgggcta cccatgtact 180  
 ntt 183

<210> 409

<211> 250

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(250)

<223> n = A,T,C or G

<400> 409

cccacgcatg ataagctctt tatttctgta agtcctgcta ggaaatcatc aaatctgacg 60  
 gtggtttggg ggacctgaac aaacctcctg taattaatca gctttcagtt tctcccccta 120  
 gtccctcctt caacaacata ggaggatcct ccccttcttt ctgctcacgg ccttatctag 180  
 gcttcccagt gccccagga cagcgtgggc tatgtttaca gcgntcctt gctggggggg 240  
 ggccntatgc 250

<210> 410

<211> 306

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(306)

<223> n = A,T,C or G

<400> 410

ggctgggttg caagaatgaa atgaatgatt ctacagctag gacttaacct tgaaatggaa 60  
 agtcttgcaa tccatttgc aggatccgtc tgtgcacatg cctctgtaga gagcagcatt 120  
 cccagggacc ttggaaacag ttggcactgt aagggtgctt ccccccaaga cacatcctaa 180  
 aagggtgttg aatggtgaaa accgcttctt tctttattgc cccttcttat ttatgtgaac 240  
 nactgggttg ctttttttgn atctttttta aactggaaag ttcaattgng aaaatgaata 300  
 tcntgc 306

<210> 411  
<211> 261  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(261)  
<223> n = A,T,C or G

<400> 411  
agagatattt cttaggtnaa agttcataga gttcccatga actatatgac tggccacaca 60  
ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120  
tttaaagtgc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180  
aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240  
cttctctcaa ggngaggcaa a 261

<210> 412  
<211> 241  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(241)  
<223> n = A,T,C or G

<400> 412  
gttcaatgtt acctgacatt tctacaacac cccactcacc gatgtattcg ttgccagtg 60  
ggaacatacc agcctgaatt tggaaaaaat aattgtgttt cttgcccagg aaatactacg 120  
actgactttg atggctccac aaacataacc cagtgtaaaa acagaagatg tggaggggag 180  
ctgggagatt tctctgggta cattgaattc ccaaactacc cangcaatta cccagccaac 240  
a 241

<210> 413  
<211> 231  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(231)  
<223> n = A,T,C or G

<400> 413  
aactcttaca atccaagtga ctcatctgtg tgcttgaate ctttccactg tctcatctcc 60  
ctcatccaag tttctagtac cttctctttg ttgtgaagga taatcaaact gaacaacaaa 120  
aagtttactc tctctatttg gaacctaaaa actctcttct tcctgggtct gagggctcca 180  
agaatccttg aatcanttct cagatcattg gggacaccan atcaggaacc t 231

<210> 414  
<211> 234  
<212> DNA  
<213> Homo sapiens

&lt;400&gt; 414

actgtccatg aagcactgag cagaagctgg aggcacaacg caccagacac tcacagcaag 60  
 gatggagctg aaaacataac ccactctgtc ctggaggcac tgggaagcct agagaaggct 120  
 gtgagccaag gagggagggt cttccttttg catgggatgg ggatgaagta aggagaggga 180  
 ctggaccccc tggaagctga ttcactatgg ggggagggtg attgaagtcc tcca 234

&lt;210&gt; 415

&lt;211&gt; 217

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(217)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 415

gcataggatt aagactgagt atcttttcta cattctttta acttttctaag gggcacttct 60  
 caaaacacag accaggtagc aaatctccac tgctctaagg ntctcaccac cactttctca 120  
 cacctagcaa tagtagaatt cagtcctact tctgaggcca gaagaatggt tcagaaaaat 180  
 antggattat aaaaaataac aattaagaaa aataatc 217

&lt;210&gt; 416

&lt;211&gt; 213

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(213)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 416

atgcatatnt aaagganact gcctcgcttt tagaagacat ctggnctgct ctctgcatga 60  
 ggcacagcag taaagctctt tgattccag aatcaagaac tctcccttc agactattac 120  
 cgaatgcaag gtgggttaatt gaaggccact aattgatgct caaatagaag gatattgact 180  
 atattggaac agatggagtc tctactacaa aag 213

&lt;210&gt; 417

&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(303)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 417

nagtcttcag gcccatcagg gaagttcaca ctggagagaa gtcatacata tgtactgtat 60  
 gtgggaaagg ctttactctg agttcaaate ttcaagccca tcagagagtc cacactggag 120  
 agaagccata caaatgcaat gagtgtggga agagcttcag gagggattcc cattatcaag 180  
 ttcattctagt ggtccacaca ggagagaaac cctataaatg tgagatatgt gggaagggt 240  
 tcantcaaag ttcgtatctt caaatccatc ngaaggncca cagtatanan aaacctttta 300  
 agt 303



<210> 418  
<211> 328  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(328)  
<223> n = A,T,C or G

<400> 418  
tttttggcgg tgggtggggca gggacgggac angagtctca ctctgttgcc caggctggag 60  
tgcacaggca tgatctcggc tcaactacaac ccctgcctcc catgtccaag cgattcttgt 120  
gcctcagcct tccctgtagc tagaattaca ggcacatgcc accacaccca gctagttttt 180  
gtatttttag tagagacagg gtttcacat gttggccagg ctggtctcaa actcctnacc 240  
tcagnggtca ggctggtctc aaactcctga cctcaagtga tctgcccacc tcagcctccc 300  
aaagtgctan gattacaggc cgtgagcc 328

<210> 419  
<211> 389  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(389)  
<223> n = A,T,C or G

<400> 419  
cctcctcaag acggcctgtg gtccgcctcc cggcaaccaa gaagcctgca gtgccatatg 60  
acccctgagc catggactgg agcctgaaag gcagcgtaca ccctgctcct gatcttgctg 120  
cttggttctt ctctgtggct ccattcatag cacagtgtgt gcactgaggc ttgtgcaggc 180  
cgagcaaggc caagctggct caaagagcaa ccagtcaact ctgccacggt gtgccaggca 240  
ccggttctcc agccaccaac ctactcgtc cccgcaaatg gcacatcagt tcttctaccc 300  
taaaggtagg accaaagggc atctgctttt ctgaagtcct ctgctctatc agccatcacg 360  
tggcagccac tcnggctgtg tcgacgcgg 389

<210> 420  
<211> 408  
<212> DNA  
<213> Homo sapiens

<400> 420  
gttcctccta actcctgcc aaaaacagctc tectcaacat gagagctgca cccctcctcc 60  
tggccagggc agcaagcctt agccttggct tcttggttct gctttttttc tggctagacc 120  
gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180  
gtcccattga cacctttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240  
gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300  
gatatagaaa attcttgaat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360  
acgttgaccg gactttgatg aagtgtctatg aaaaacctgg caagcccc 408

<210> 421  
<211> 352  
<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(352)

<223> n = A,T,C or G

<400> 421

```
gctcaaaaat ctttttactg atnggcatgg ctacacaatc attgactatt acggaggcca 60
gaggagaatg aggcctggcc tgggagccct gtgcctacta naagcacatt agattatcca 120
ttcactgaca gaacaggtct tttttgggtc cttcttctcc accacnata acttgacgtc 180
ctccttcttg aagattcttt ggcagttgtc tttgtcataa cccacaggtg tagaaacaag 240
ggtgcaacat gaaatttctg tttcgtagca agtgcattgc tcacaagttg gcangtctgc 300
cactccgagt ttattgggtg tttgtttcct ttgagatcca tgcatttcct gg 352
```

<210> 422

<211> 337

<212> DNA

<213> Homo sapiens

<400> 422

```
atgccaccat gctggcaatg cagcggggcg tcgaaggcct gcatatccag cccaagctgg 60
cgatgatcga cggcaaccgt tgcccgaagt tgccgatgcc agccgaagcg gtggtcaagg 120
gcgatagcaa ggtgccggcg atcgcgggcg cgtcaatcct ggccaaggct agccgtgatc 180
gtgaaatggc agctgtcgaa ttgatctacc cgggttatgg catcgggcgg cataagggtc 240
atccgacacc ggtgcacctg gaagccttgc agcggctggg gccgacgccg attcaccgac 300
gcttcttccg ccggtacggc tggcctatga aaattat 337
```

<210> 423

<211> 310

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(310)

<223> n = A,T,C or G

<400> 423

```
gctcaaaaat ctttttactg atatggcatg gctacacaat cattgactat tagaggccag 60
aggagaatga ggcctggcct gggagccctg tgccctactan aagcncatta gattatccat 120
tcactgacag aacaggtctt ttttgggtcc ttcttctcca ccacgatata cttgcagtcc 180
tccttcttga agattctttg gcagttgtct ttgtcataac ccacaggtgt anaaacaagg 240
gtgcaacatg aaatttctgt ttcgtagcaa gtgcattgtc cacagttgtc aagtctgccc 300
tccgagttta 310
```

<210> 424

<211> 370

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(370)

<223> n = A,T,C or G

&lt;400&gt; 424

```
gctcaaaaat ctttttactg atagggcatgg ctacacaatc attgactatt agaggccaga 60
ggagaatgag gcctggcctg ggagccctgt gcctactaga agcacattag attatccatt 120
cactgacaga acaggtcttt tttgggtcct tcttctccac cacgatatac ttgcagtcct 180
ctttcttgaa gattcttttg cagttgtctt tgtcataacc cacagggtga gaaacatcct 240
ggttgaatct cctggaactc cctcattagg tatgaaatag catgatgcat tgcataaagt 300
cacgaagggtg gcaaagatca caacgctgcc cagganaaca ttcattgtga taagcaggac 360
tccgtcgacg                                     370
```

&lt;210&gt; 425

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(216)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 425

```
aattgctatn ntttattttg ccactcaaaa taattaccaa aaaaaaaaaa tnttaaataga 60
taacaacnca acatcaagg n anaanaaca ggaatggntg acntngcata aatnggccga 120
anattatcca ttaatnttaag ggttgacttc aggntacagc acacagacaa acatgcccag 180
gaggntntca ggaccgctcg atgtntntng aggagg                                     216
```

&lt;210&gt; 426

&lt;211&gt; 596

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 426

```
cttccagtga ggataaccct gttgccccgg gccgaggttc tccattaggc tctgattgat 60
tggcagtcag tgatggaagg gtgttctgat cattccgact gccccaaggg tcgctggcca 120
gctctctgtt ttgctgagtt ggcagtagga cctaatttgt taattaagag tagatgggtga 180
gctgtccttg tattttgatt aacctaatgg ccttcccagc acgactcgga ttcagctgga 240
gacatcacgg caacttttaa tgaaatgatt tgaagggccca ttaagaggca cttcccgtta 300
ttaggcagtt catctgcact gataacttct tggcagctga gctggtcgga gctgtggccc 360
aaacgcacac ttggcttttg gttttgagat acaactctta atcttttagt catgcttgag 420
ggtggatggc cttttcagct ttaacccaat ttgactgcc ttggaagtgt agccaggaga 480
atacatcat atactcgtgg gcttagaggc cacagcagat gtcattggct tactgcctga 540
gtcccgtggtg tcccatccca ggaccttcca tcggcgagta cctgggagcc cgtgct      596
```

&lt;210&gt; 427

&lt;211&gt; 107

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(107)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 427

```
gaagaattca agttaggttt attcaaaggg cttacngaga atcctanacc caggncccag 60
```

cccggggagca gccttanaga gctcctgttt gactgcccgg ctcagng

107

<210> 428

<211> 38

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(38)

<223> n = A,T,C or G

<400> 428

gaacttcena anaangactt tattcactat ttacatt

38

<210> 429

<211> 544

<212> DNA

<213> Homo sapiens

<400> 429

ctttgctgga cggaataaaa gtggacgcaa gcatgacctc ctgatgaggg cgctgcattt 60  
 attgaagagc ggctgcagcc ctgcggttca gattaaaatc cgagaattgt atagacgccg 120  
 atatccacga actcttgaag gactttctga tttatccaca atcaaactcat cggttttcag 180  
 tttggatggt ggctcatcac ctgtagaacc tgacttggcc gtggctggaa tccactcgtt 240  
 gccttcact tcagttacac ctcaactcacc atcctctcct gttgggttctg tgctgcttca 300  
 agatactaag cccacatttg agatgcagca gcatctccc ccaattcctc ctgtccatcc 360  
 tgatgtgcag ttaaaaaatc tggcctttta tgatgtcctt gatgttctca tcaagccac 420  
 gagtttagtt caaagcagta ttcagcgatt tcaagagaag ttttttattt ttgctttgac 480  
 acctcaacaa gttagagaga tatgcatatc cagggatttt ttgccagggtg gtaggagaga 540  
 ttat 544

<210> 430

<211> 507

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(507)

<223> n = A,T,C or G

<400> 430

cttatcncaa tggggctccc aaacttggct gtgcagtgga aactccgggg gaattttgaa 60  
 gaacactgac acccatcttc caccocgaca ctctgattta attgggctgc agtgagaaca 120  
 gagcatcaat ttaaaaagct gcccagaatg ttntcctggg cagcgttggt atctttgccn 180  
 ccttcgtgac tttatgcaat gcatcatgct atttcatacc taatgaggga gttccaggag 240  
 attcaaccag gatgtttcta cncctgtggg ttatgacaaa gacaactgcc aaagaatntt 300  
 caagaaggag gactgcaagt atatcgtggg ggagaagaag gacccaaaaa agacctgttc 360  
 tgtcagtga tggataatct aatgtgcttc tagtaggcac agggctccca ggccaggcct 420  
 cattctcttc tggcctctaa tagtcaatga ttgtgtagcc atgcctatca gtaaaaagat 480  
 ttttgagcaa aaaaaaaaaa aaaaaaa 507

<210> 431

<211> 392

<212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(392)  
 <223> n = A,T,C or G

<400> 431  
 gaaaattcag aatggataaa aacaaatgaa gtacaaaata tttcagattt acatagcgat 60  
 aaacaagaaa gcacttatca ggaggactta caaatggaag tacactctan aaccatcatc 120  
 tatcatggct aaatgtgaga ttagcacagc tgtattattt gtacattgca aacacctaga 180  
 aagagatggg aaacaaaatc ccaggagttt tgtgtgtgga gtccctgggtt ttccaacaga 240  
 catcattcca gcattctgag attagggnga ttggggatca ttctggagtt ggaatgttca 300  
 acaaaagtga tgttgttagg taaaatgtac aacttctgga tctatgcaga cattgaaggt 360  
 gcaatgagtc tggcttttac tctgctgttt ct 392

<210> 432  
 <211> 387  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(387)  
 <223> n = A,T,C or G

<400> 432  
 ggtatccnta cataatcaaa tatagctgta gtacatgttt tcattggngt agattaccac 60  
 aaatgcaagg caacatgtgt agatctcttg tcttattctt ttgtctataa tactgtattg 120  
 ngtagtccaa gctctcggna gtccagccac tngaaacat gctcccttta gattaacctc 180  
 gtggacnctn ttgttgnatt gtctgaactg tagngccctg tattttgctt ctgtctgnga 240  
 attctgttgc ttctggggca tttccttgng atgcagagga ccaccacaca gatgacagca 300  
 atctgaattg ntccaatcac agctgcgatt aagacatact gaaatcgta aggaccggga 360  
 acaacgtata gaacactgga gtccttt 387

<210> 433  
 <211> 281  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(281)  
 <223> n = A,T,C or G

<400> 433  
 ttcaactagc anagaanact gcttcagggg gtgtaaaatg aaaggcttcc acgcagttat 60  
 ctgattaaag aacactaaga gagggacaag gctagaagcc gcaggatgtc tacactatag 120  
 caggcnctat ttgggttggc tggaggagct gtggaaaaca tggagagatt ggcgctggag 180  
 atcgccgtgg ctattcctcn ttgntattac accagngagg ntctctgtnt gccactgggt 240  
 tnnaaaaccg ntatacaata atgatagaat aggacacaca t 281

<210> 434  
 <211> 484

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 434

```

ttttaaaata agcatttagt gctcagtecc tactgagtac tctttctctc cctctctctg 60
aatttaattc tttcaacttg caatttgcaa ggattacaca tttcactgtg atgtatattg 120
tggtgcaaaa aaaaaaaagt gtctttgttt aaaattactt ggtttgtgaa tccatcttgc 180
tttttccccca ttggaactag tcattaaccc atctctgaac tggtagaaaa acatctgaag 240
agctagtcta tcagcatctg acaggtgaat tggatgggtc tcagaacccat ttcaccaga 300
cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca taacaaaccc 360
tgctccaatc tgtcacataa aagtctgtga cttgaagttt agtcagcacc cccaccaaac 420
tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataaag tacccatgtc 480
ttaa
484

```

&lt;210&gt; 435

&lt;211&gt; 424

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 435

```

gcgccgctca gagcaggtca ctttctgcct tccacgtcct ccttcaagga agcccatgt 60
gggtagcttt caatatcgca gggtcttact cctctgcctc tataagctca aaccaccaa 120
cgatcgggca agtaaaccct ctcctcgcc gacttcggaa ctggcgagag ttcagcgag 180
atgggcctgt ggggaggggg caagatagat gagggggagc ggcattggtc ggggtgaccc 240
cttgagagaga ggaaaaaggc cacaagaggg gctgccaccg ccactaacgg agatggcct 300
ggtagagacc tttgggggtc tggaaacctc ggactcccca tgctctaact cccacactct 360
gctatcagaa acttaaaact gaggattttc tctgtttttc actcgcaata aattcagagc 420
aaac
424

```

&lt;210&gt; 436

&lt;211&gt; 667

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(667)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 436

```

accttgggaa nactctcaca atataaaggg tcgtagactt tactccaaat tccaaaaagg 60
tcctggccat gtaatcctga aagttttccc aaggtagcta taaaatcctt ataaggggtc 120
agcctcttct ggaattcctc tgatttcaaa gtctcactct caagttcttg aaaacgaggg 180
cagttcctga aaggcaggta tagcaactga tcttcagaaa gaggaactgt gtgcaccggg 240
atgggctgcc agagtaggat aggattccag atgctgacac cttctggggg aaacagggct 300
gccaggtttg tcatagcact catcaaagtc cgggtcaacgt ctgtgcttcg aatataaacc 360
tgttcatgtt tataggactc attcaagaat tttctatc tctttcttat atactctcca 420
agttcataat gctgctccat gccagctgg gtgagttggc caaatccttg tggccatgag 480
gattccttta tgggggtcagt gggaaagggt tcaatgggac ttcgggtctcc atgccgaaac 540
accaaagtca caaacttcaa ctcttgggt agtacacttc ggtctagcca gaaaaaaagc 600
agaaacaaga agccaaggct aaggcttgct gccctgccag gaggaggggt gcagctctca 660
tgttgag
667

```

&lt;210&gt; 437

&lt;211&gt; 693

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 437

```
ctacgtctca accctcattt ttaggtaagg aatcttaagt ccaaagatat taagtgactc 60
acacagccag gtaaggaaaag ctggattggc acactaggac tctaccatac cgggttttgt 120
taaagctcag gttaggaggc tgataagctt ggaaggaaact tcagacagct ttttcagatc 180
ataaaaagata attcttagcc catgttcttc tccagagcag acctgaaatg acagcacagc 240
aggtagctct ctattttcac cctcttctgt tctactctct ggcagtcaga cctgtgggag 300
gccatgggag aaagcagctc tctggatggt tgtacagatc atggactatt ctctgtggac 360
catttctcca gggtacccta ggtgtcacta ttgggggggac agccagcatc tttagctttc 420
atgtgagttt ctgtctgtct tcagtagagg aaacttttgc tcttcacact tcacatctga 480
acacctaact gctgttgctc ctgaggtggt gaaagacaga tatagagctt acagtattta 540
tcctatttct aggcactgag ggctgtgggg taccttgtgg tgccaaaaca gatcctgttt 600
taaggacatg ttgcttcaga gatgtctgta actatctggg ggctctgttg gctctttacc 660
ctgcatcatg tgctctcttg gctgaaaatg acc 693
```

&lt;210&gt; 438

&lt;211&gt; 360

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 438

```
ctgcttatca caatgaatgt tctcctgggc agcgttgtga tctttgccac cttcgtgact 60
ttatgcaatg catcatgcta tttcatacct aatgaggagg ttccaggaga ttcaaccagg 120
atgtttctac acctgtgggt tatgacaaag acaactgcc aagaatcttc aagaaggagg 180
actgcaagta tatctggtgg agaagaagga cccaaaaaag acctgttctg tcagtgaatg 240
gataatctaa tgtgcttcta gtaggcacag ggctcccagg ccaggccctca ttctcctctg 300
gcctctaata gtcaataatt gtgtagccat gcctatcagt aaaaagattt ttgagcaaac 360
```

&lt;210&gt; 439

&lt;211&gt; 431

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(431)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 439

```
gttcctnnta actcctgcc aaaaacagctc tcctcaacat gagagctgca cccctcctcc 60
tgccagggc agcaagcctt agccttggtc tcttgtttct gcttttttct tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgacttttgt gtttcggcat ggagaccgaa 180
gtcccattga cacctttccc actgacccca taaaggaatc ctcattggca caaggatttg 240
gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attcttgaat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgtcga cgcggccgcg 420
aatttagtag t 431
```

&lt;210&gt; 440

&lt;211&gt; 523

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 440

```
agagataaag cttaggtcaa agttcataga gttcccatga actatatgac tggccacaca 60
ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
tttaaagtgc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttacccat cagttccagc 240
cttctctcaa ggagaggcaa agaaaggaga tacagtggag acatctggaa agttttctcc 300
actggaaaac tgctactatc tgtttttata tttctgttaa aatatatgag gctacagAAC 360
taaaaattaa aacctctttg tgtcccttgg tcctggaaca tttatgttcc ttttaaagaa 420
acaaaaatca aactttacag aaagatttga tgtatgtaac acatatagca gctcttgaag 480
tatatatatc atagcaaata agtcacttga tgagaacaag cta 523
```

&lt;210&gt; 441

&lt;211&gt; 430

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 441

```
gttcctccta actcctgccA gaaacagctc tctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180
gtcccattga cacctttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attccttgaat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgtcga cgcggccgcg 420
aatttagtag 430
```

&lt;210&gt; 442

&lt;211&gt; 362

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 442

```
ctaaggaatt agtagtggtc ccatcacttg tttggagtgt gctattctaa aagattttga 60
tttcctggaa tgacaattat attttaactt tggaggggga aagagttata ggaccacagt 120
cttcacttct gatacttgta aattaatctt ttattgcact tgttttgacc attaagctat 180
atgttttagaa atggtcattt tacggaaaaa ttagaaaaat tctgataata gtgcagaata 240
aatgaattaa tgttttactt aatttatatt gaactgtcaa tgacaaataa aaattctttt 300
tgattatttt ttgttttcat ttaccagaat aaaaactaag aattaaaagt ttgattacag 360
tc 362
```

&lt;210&gt; 443

&lt;211&gt; 624

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(624)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 443

```
tttttttttt gcaacacaat atacatcaca gtgaaatgtg taatccttgc aaattgcaag 60
ttgaaagaat taaattcaga ggagggggaga gaaagagtac tcagtaggga ctgagcacta 120
aatgcttatt ttaaaagaaa tgtaaagagc agaaagcaat tcaggctacc ctgccttttg 180
tgctgggctag tactccggtc ggtgtcagca gcacgtggca ttgaacattg caatgtggag 240
```



```

cccaaaccac agaaaatggg gtgaaattgg ccaactttct attaacttgg ctctctgttt 300
tataaaatat tgtgaataat atcacctact tcaaagggca gttatgaggc ttaaataaac 360
taacgcctac aaaacactta aacatagata acataggtgc aagtactatg tatctggtac 420
atggtaaaca tccttattat taaagtcaac gctaaaatga atgtgtgtgc atatgctaata 480
agtacagaga gagggcactt aaaccaacta agggcctgga gggaagggtt cctggaaaga 540
ngatgcttgt gctgggtcca aatcttgggc tactatgacc ttggccaaat tatttaaact 600
ttgtccctat ctgctaaaca gatc 624

```

<210> 444

<211> 425

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(425)

<223> n = A,T,C or G

<400> 444

```

gcacatcatt nntcttgcatt tctttgagaa taagaagatc agtaaatagt tcagaagtgg 60
gaagctttgt ccaggcctgt gtgtgaaccc aatgttttgc ttagaaatag aacaagtaag 120
ttcattgcta tagcataaca caaaatttgc ataagtggtg gtcagcaaat ccttgaatgc 180
tgcttaatat gagaggttgg taaaatcctt tgtgcaacac tctaactccc tgaatgtttt 240
gctgtgctgg gacctgtgca tgccagacaa ggccaagctg gctgaaagag caaccagcca 300
cctctgcaat ctgccacctc ctgctggcag gatttgtttt tgcatcctgt gaagagccaa 360
ggaggcacca gggcataagt gagtagactt atggtcgacg cggccgcgaa tttagtagta 420
gtaga 425

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<210> 445

<211> 414

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(414)

<223> n = A,T,C or G

<400> 445

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ttctgttttt caaaagcaga gatggccaga gtctcaacaa actgtatctt caagtctttg 120
tgaaattctt tgcattgtggc agattattgg atgtagtctt ctttaactag catataaatc 180
tggtgtgttt cagataaatg aacagcaaaa tgtggtggaa ttaccatttg gaacattgtg 240
aatgaaaaat tgtgtctcta gattatgtaa caaataacta tttcctaacc attgatcttt 300
ggatttttat aatcctactc acaaatgact aggcttctcc tcttgatttt tgaagcagtg 360
tggtgtgctg attgataaaa aaaaaaaaaa tgcacgcggc cgcaatttta gtag 414

```

<210> 446

<211> 631

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(631)

<223> n = A,T,C or G

<400> 446

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tctgcatgca tgggaagtgt gagcattcta tcaatatgca ggagccatct tgcaggtgtg 120
atgctgggta tactggacaa cactgtgaaa aaaaggacta cagtgttcta tacgttggtc 180
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gacagaagca aaatacaggg cactacagtt cagacaatac aacaagagcg tccacgaggt 420
taatctaaag ggagcatgtt tcacagtggc tggactaccg agagcttgga ctacacaata 480
cagtattata gacaaaagaa taagacaaga gatctacaca tgttgcttg catttggtgtg 540
aatctacacc aatgaaaaca tgtactacag ctatatgtga ttatgtatgg atatatttga 600
aatagtatac attgtcttga tgttttttct g                                     631

```

<210> 447

<211> 585

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(585)

<223> n = A,T,C or G

<400> 447

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cctggccatg taatcctgaa agttttccca aggtagctat aaaatcctta taaggggtgca 120
gcctcttctg gaattcctct gatttcaaag tctcactctc aagttcttga aaacgagggc 180
agttcctgaa aggcaggtat agcaactgat cttcagaaag aggaactgtg tgcaccggga 240
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ccagggtttgt catagcactc atcaaagtcc ggtcaacgtc tgtgcttcga atataaacct 360
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gttcataatg ctgctccatg cccagctggg tgagttggcc aaatccttgt ggccatgagg 480
attcctttat ggggtcagtg ggaaagggtg caatgggact tcggtctcca tgccgaaaca 540
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```

<210> 448

<211> 93

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(93)

<223> n = A,T,C or G

<400> 448

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tgctcgtggg tcattctgan ncccgaactg acctgccag ccctgccgan gggccnccat 60
ggctccctag tgccctggag agganggggc tag                                     93

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<210> 449

<211> 706

<212> DNA

<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(706)  
<223> n = A,T,C or G

<400> 449  
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ttctgancac cgaactgacc atgccagccc tgccgatggt cctccatggc tccctagtgc 120  
cctggagagg aggtgtctag tcagagagta gtcctggaag gtggcctctg ngaggagcca 180  
cggggacagc atcctgcaga tggtcgggag cgctccattc gccattcagg ctgcgcaact 240  
gttgggaagg gcgatcggtg cgggcctctt cgctattacg ccagctggcg aaagggggat 300  
gtgctgcaag gcgattaagt tgggtaacgc cagggttttc ccagtcncga cgttgtaaaa 360  
cgacggccag tgaattgaat ttaggtgacn ctatagaaga gctatgacgt cgcatgcacg 420  
cgtacgtaag cttggatcct ctagagcggc cgcctactac tactaaattc gcggcgcgct 480  
cgacgtggga tccncaactga gagagtggag agtgacatgt gctggacnct gtccatgaag 540  
cactgagcag aagctggagg cacaacgcnc cagacactca cagctactca ggaggctgag 600  
aacagggtga acctgggagg tggaggttgc aatgagctga gatcaggccn ctgcncceca 660  
gcatggatga cagagtgaat ctccatctta aaaaaaaaaa aaaaaa 706

<210> 450  
<211> 493  
<212> DNA  
<213> Homo sapiens

<400> 450  
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tcaagtcaac acatctgtga actcacagac caagttctta aaccactgtt caaactctgc 420  
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gcgaatttag tag 493

<210> 451  
<211> 501  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
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<223> n = A,T,C or G

<400> 451  
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ctcttcgcta ttacgccagc tggcgaaagg gggatgtgct gcaaggcgat taagtgggt 120  
aacgccaggg ttttcccagt cncgacgtt taaaacgacg gccagtgaat tgaatttagg 180  
tgacnctata gaagagctat gacgtcgcat gcacgcgtac gtaagcttgg atcctctaga 240  
gcggccgcct actactacta aattcgcggc cgcgtcgacg tgggatccnc actgagagag 300  
tggagagtga catgtgctgg acnctgtcca tgaagcactg agcagaagct ggaggcacia 360  
cgcncagac actcacagct actcaggagg ctgagaacag gttgaacctg ggagggtggag 420  
gttgcaatga gctgagatca ggccnctgcn ccccgacatg gatgacagag tgaaactcca 480

tcttaaaaaa aaaaaaaaaa a

501

&lt;210&gt; 452

&lt;211&gt; 51

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(51)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 452

agacgggtttc accntttacaa cnccttttag gatgggnntt ggggagcaag c

51

&lt;210&gt; 453

&lt;211&gt; 317

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(317)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 453

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 ttcacccana cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca 180  
 taacaaaccc tgctccaatc tgtcacataa aagtctgtga cttgaagttt antcagcacc 240  
 cccaccaaac tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataagg 300  
 taccatgtc tttatta 317

&lt;210&gt; 454

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 454

ttcgagggtac aatcaactct cagagtgtag tttccttcta tagatgagtc agcattaata 60  
 taagccacgc cagctcttg aaggagtctt gaattctcct ctgctcactc agtagaacca 120  
 agaagaccaa attcttctgc atcccagctt gcaaacaaaa ttgttcttct aggtctccac 180  
 ccttcctttt tcagtgttcc aaagctctc acaatttcat gaacaacagc t 231

&lt;210&gt; 455

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 455

taccaaagag ggcataataa tcagtctcac agtaggggtc accatcctcc aagtgaaaaa 60  
 cattgttccg aatgggcttt ccacaggcta cacacacaaa acaggaaaca tgccaagttt 120  
 gtttcaacgc attgatgact tctccaagga tcttcctttg gcacgacca cattcagggg 180  
 caaagaattt ctcatagcac agctcacaat acagggtctc tttctcctct a 231

<210> 456  
<211> 231  
<212> DNA  
<213> Homo sapiens

<400> 456  
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tgcactcaaa ttcctttatc aggaataact acatagccac tatttacaaa gccattggaa 180  
cctttttatt tgggtgcagct gctagtcagt ccctgactga cattgccaag t 231

<210> 457  
<211> 231  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(231)  
<223> n = A,T,C or G

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tatttgattt tattagcaat ctctttcaga agacccttga gatcattaag ctttgtatcc 180  
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<210> 458  
<211> 231  
<212> DNA  
<213> Homo sapiens

<400> 458  
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acaccctaac cttgggtaac agcatttgga attatcattt gggatgagta gaatttccaa 180  
ggtcctgggt taggcatttt gggggggccag accccaggag aagaagattc t 231

<210> 459  
<211> 231  
<212> DNA  
<213> Homo sapiens

<400> 459  
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gccctgcact gttttccctc caccacagcc atcctgtccc tcattggctc tgtgctttcc 180  
actatacaca gtcaccgtcc caatgagaaa caagaaggag caccctccac a 231

<210> 460  
<211> 231  
<212> DNA  
<213> Homo sapiens

<400> 460

gcaggtataa catgctgcaa caacagatgt gactaggaac ggccggtgac atggggaggg 60  
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cccacctccc cacacgcaca cggccagcct ggagcccaca gaagggtcct cctgcagcca 180  
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<210> 461

<211> 231

<212> DNA

<213> Homo sapiens

<400> 461

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gtgggggttca gtgaggagtg ggaaattggt tcagcagaac caagccgttg ggtgaataag 180  
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<210> 462

<211> 231

<212> DNA

<213> Homo sapiens

<400> 462

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gaagaactgt tagagagacc aacagggtag tgggttagag atttccagag tcttacattt 180  
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<210> 463

<211> 231

<212> DNA

<213> Homo sapiens

<400> 463

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catttgacag gtgtcttttc ctctggacct cgggtgtccc atctgagtga gaaaaggcag 180  
tggggagggtg gatcttccag tcgaagcggt atagaagccc gtgtgaaaag c 231

<210> 464

<211> 231

<212> DNA

<213> Homo sapiens

<400> 464

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cctgtctcag tgactgtgtg cctgtagtcc cagctactcg ggagtctgtg tgaggccagg 180  
ggtgccagcg caccagctag atgctctgta acttctaggc cccattttcc c 231

<210> 465

<211> 231

<212> DNA

<213> Homo sapiens

<400> 465

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aggatggcac aatttttgct tgtgttcata atatactcag attagttcag ctccatcaga 180  
taaactggag acatgcagga cattagggtg gtgttgtagc tctggtaatg a 231

<210> 466

<211> 231

<212> DNA

<213> Homo sapiens

<400> 466

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cctgtgcaat caaatattgt ggagaattcc ctagctggag aagtcacaaa gactataggc 180  
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<210> 467

<211> 311

<212> DNA

<213> Homo sapiens

<400> 467

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<211> 3112

<212> DNA

<213> Homo sapiens

<400> 468

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&lt;210&gt; 469

&lt;211&gt; 2229

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 469

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&lt;210&gt; 470

&lt;211&gt; 2426

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 470

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2426

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&lt;211&gt; 812

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 471

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812

&lt;210&gt; 472

&lt;211&gt; 515

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

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&lt;400&gt; 472

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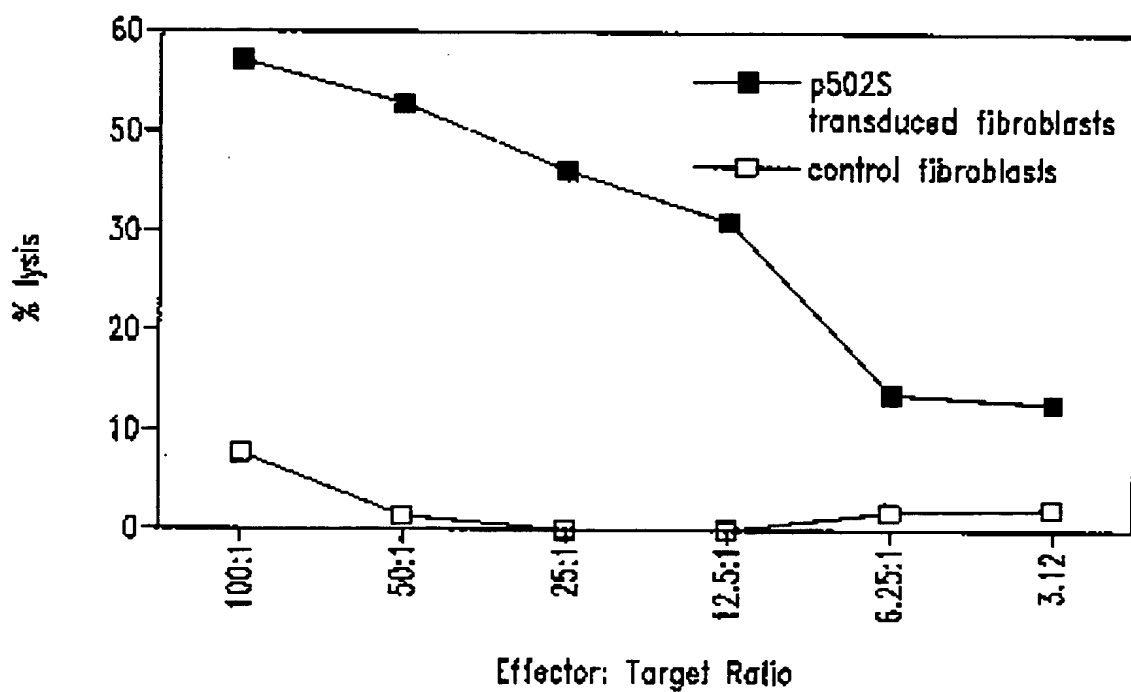
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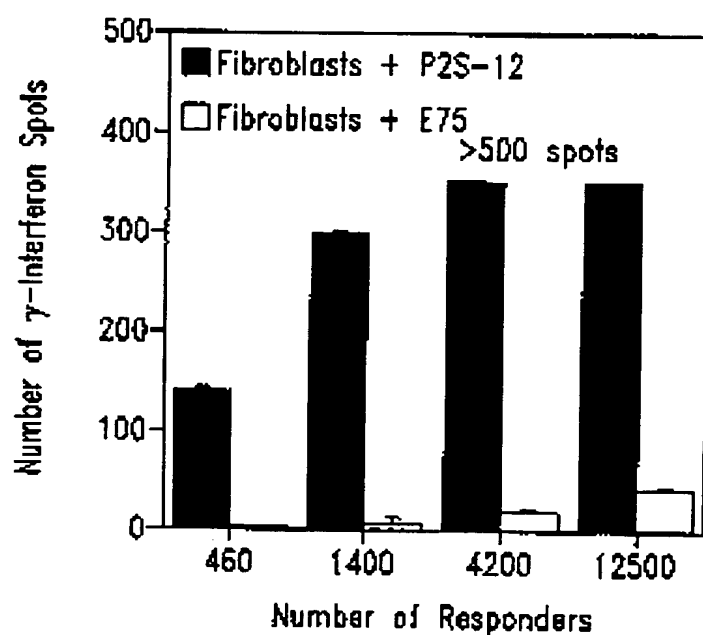
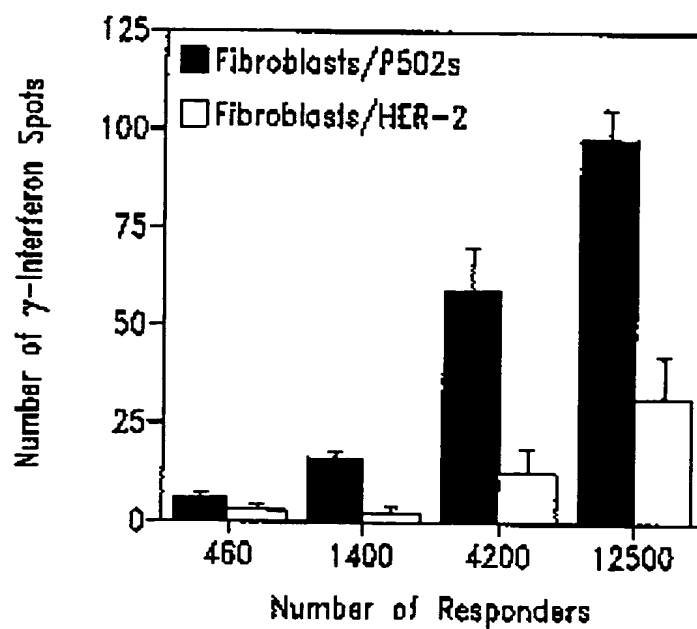
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*Fig. 1*

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*Fig. 2A**Fig. 2B*

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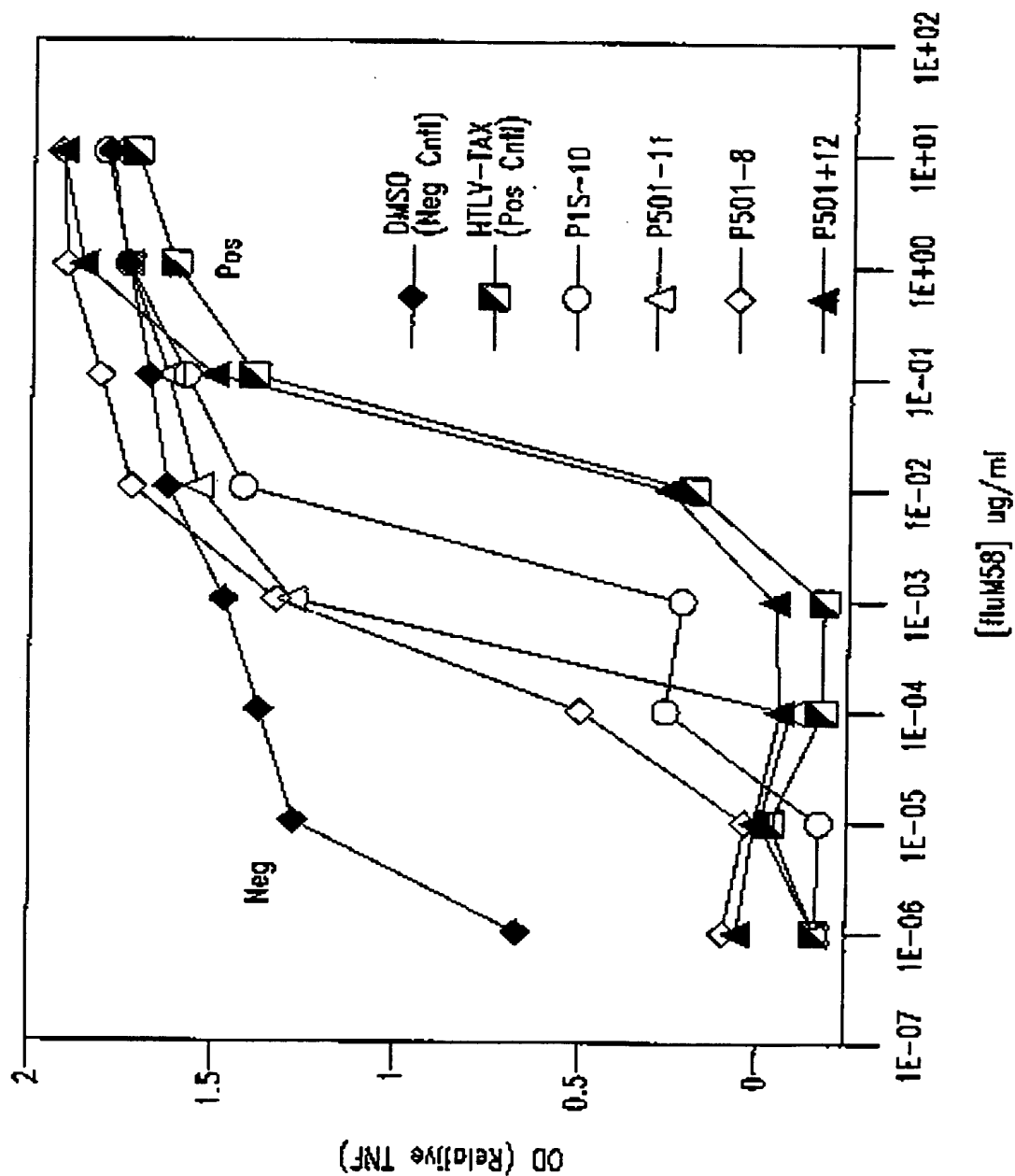
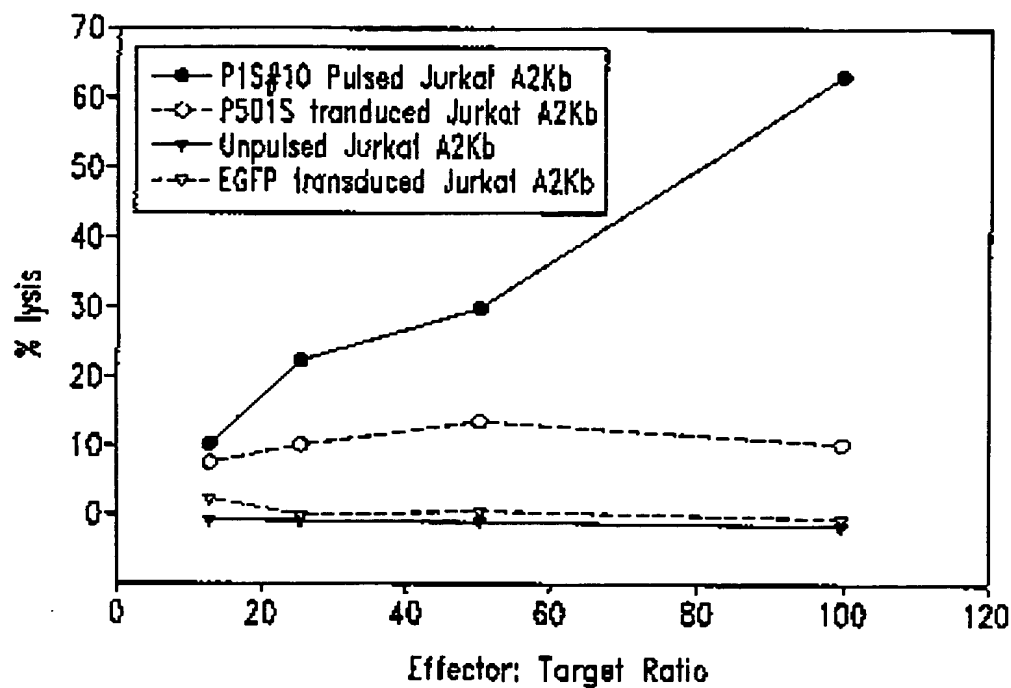
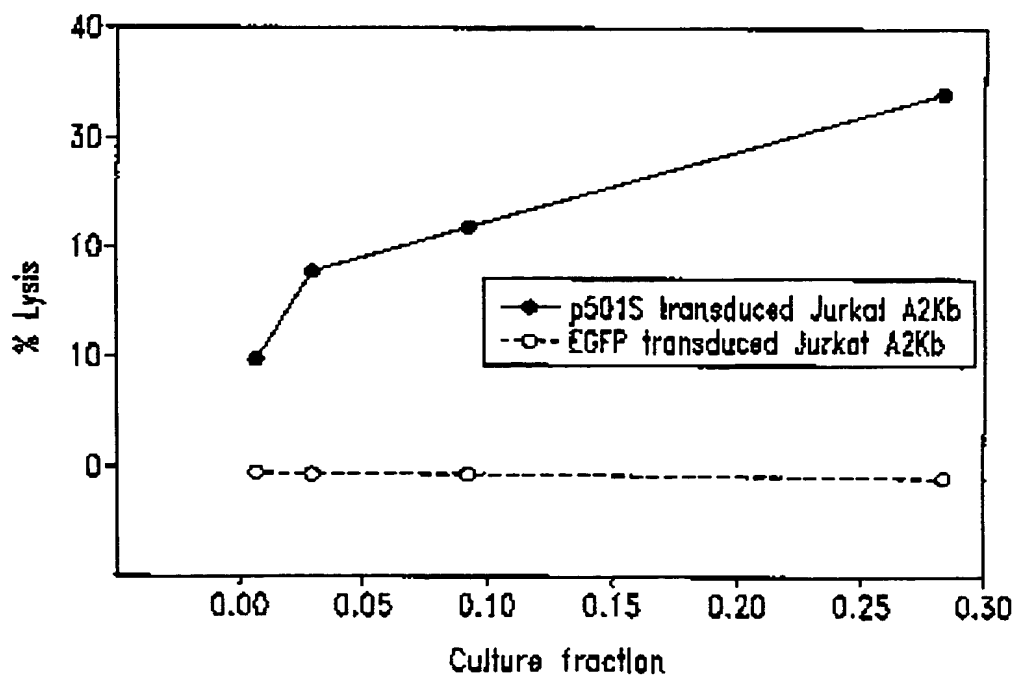


Fig. 3

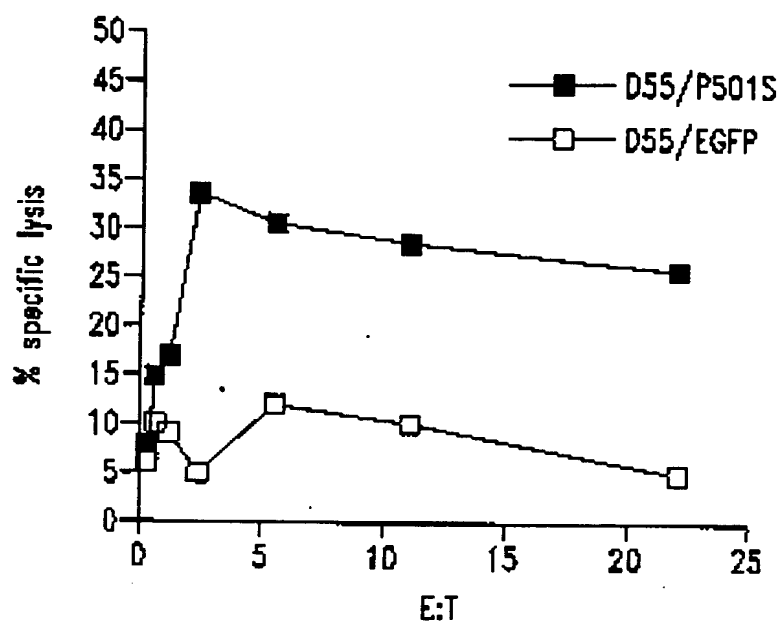
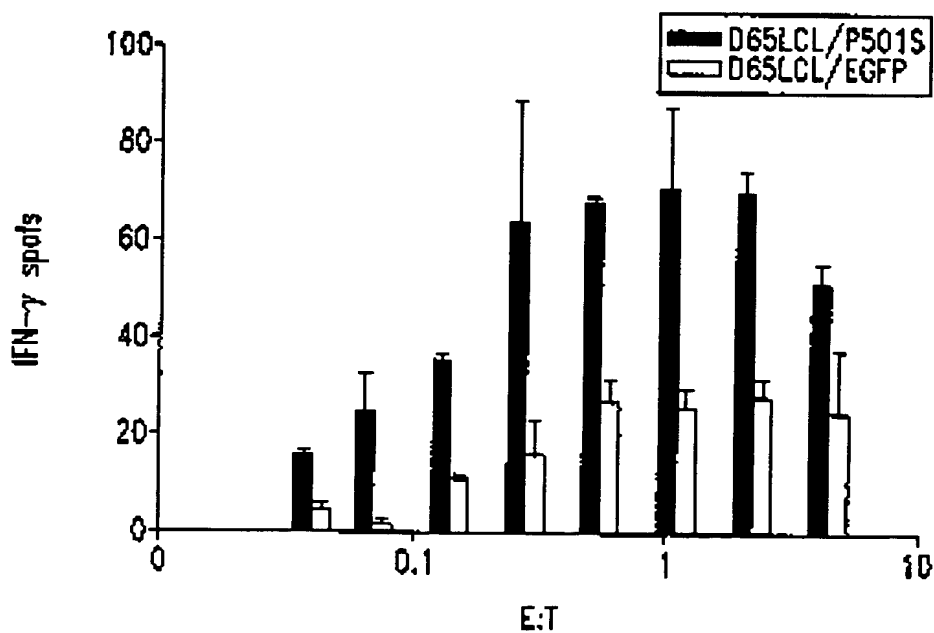
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*Fig. 4**Fig. 5*

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*Fig. 6**Fig. 7*

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## SEQUENCE LISTING

<110> Corixa Corporation

<120> COMPOUNDS FOR IMMUNOTHERAPY AND DIAGNOSIS  
OF PROSTATE CANCER AND METHODS FOR THEIR USE

<130> 210121.42701PC

<140> PCT

<161> 1999-07-08

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<170> FastSEQ for Windows Version 3.0

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&lt;211&gt; 773

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(773)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 3

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&lt;210&gt; 4

&lt;211&gt; 828

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(828)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 4

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<212> DNA
<213> Homo sapien

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<223> n = A,T,C or G

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<211> B18
<212> DNA
<213> Homo sapien

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cnttatcnnt aaaggtmata accnctcta tnatccacc caatngnatl ccccaacnnt 720
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cttnantgan ggttattncc coctngentt atcance 818

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<210> 8
<211> 799
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{799}
<223> n = A,T,C or G

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<400> 8
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ctgaagcgca cgtcccgaga ggtggacttg gcaactgaaac agctgggaca catcngcga 180
tacgaacagc gactgaaagt gctggagcgt gagggtccagc agtgtagccg cgtcctgggg 240
tgggtggcrg angectganc cgtctctgct tgcctgcccc angtgggccc ccaacccctg 300
acctgacctg gtccaaaacac tgagccctgc tggcggaact caagganaac cccacangg 360
ggattttgct cctanantaa ggctcatctg ggctcgggcc cccccacctg gttggccttg 420
tctttgamtg gagccccatg tccatctggg ccaactgtcng gacraacctt ngggagtgct 480
ctccttacaa ccacannatg cccggctcct cccgggaacac antccancc tnggaaggat 540
caagacctgn atcaactnnt nctanaaccc gcnccncccg cngtgggaac cncctlnct 600
tccttttctt tnaagggtta tncgccttg gccctnccan ngtccctncc ntcttccnnt 660
gttnaaattg ttangcnccc nccnntcccn cncnncnncn cccgacccnn annctnnann 720

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ncctgggggt nccnncngat: tgaccenncc nccctntant. tgcnltnggg nccnntgccc 780  
ctttccctct nggyanneg 799

<210> 9  
<211> 801  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> {1}...{801}  
<223> n = A,T,C or G

<400> 9  
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taangatgac actcccdaag gtggteetga cagtggccca gatggacatg gggctcaact 120  
caggagacaag gccaccaggc ggggggggucg aagccacat gatccctact ctatgagcaa 180  
aatccctgt gggggcttct ccttgaagtc cgcncncagg gctcagtcct tggaccacag 240  
caggtuatgg ggttgtngc caactggggg ucncaargca aaanggcncu gggcctcngn 300  
caccatccn angccggggu taactnctg gacctccnc tccaccactt tcatgcyctg 360  
tccntaccug cgnatntgt ccactgttt cngtgcncac tccancctt nggacgtgcg 420  
ctacatacgc ccggantcnc nctccgctt tgtccctatc cacytnccan caacaaattt 480  
cnccntantg caccnattec cacttttnc agntttcnc nncgngcttc ctntaaaag 540  
ggttgancct cggaaantc cccaaagggg gggggcngg taccdaactn cccctnata 600  
gctgaantcc ccatnaccnn gactcnatgg anccntccnt tttaanncn tctnaactt 660  
gggaananc ctcgncntn ccccnctta tccnccttg cnangnncnt ccccnntcc 720  
ncccnwtng gcntntnann cnazaaaggc cnnnncac tctcctnnc cctcanttcg 780  
ccanccctcg aatcggrcn c 801

<210> 10  
<211> 789  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> {1}...{789}  
<223> n = A,T,C or G

<400> 10  
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agatcctgrr ctacacactg gctccctct accaccggga gaagcaggtg ttcctgccca 180  
aetaccgagg ggcactgga ggtgttagca gtgaggacag cctgatgacc agcttctgrr 240  
caggccctaa gcctggagct ccttcccta atggacacgt ggggtgtgga ggcagtygrr 300  
tgctcccaac tccaccggc ctctggggg cctctgctg tgatgtctcc gtacgtgtgg 360  
tggtgggtga gccaccgan gccagggtgg ttcgggguc gggcatctgrr ctggacctcg 420  
ccatcctgga tagtgcttc tgctgtccca ngtggccca tccctgttta tgggctccat 480  
tgtccagctc agccagtctg tcaatgccta tatgtgtc gercagggcc tgggtctggt 540  
cccatttact tggctacaca ggtantatt gacaagaacg anttggccaa atactcagrr 600  
ttaaanaatt ccagcaacat. tgggggtgga aggcctgcct cactgggtcc aactcccgrr 660  
tctgttaac cccatggggc tgcggcttg gccccaatt tctgttgcrr ccaaanctat 720  
gtggctctct gctgccacct gttgctggrr gaagtgcnta cngcncant nggggggtng 780  
ggngt.tccc 789

<210> 11  
 <211> 772  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(772)  
 <223> n = A,T,C or G

<400> 11  
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 accaacaggc cacatcctga taagaaggta yaggggggtg gatcagcaaa aagacagtgc 180  
 tgtgggctga ygggacctgg ttcttgtgtg ttgcccctca ggaactcttc cctacaaata 240  
 actttcataa gttaaaatcc catggaggag tgtttcatcc tagaaactcc catgcaagag 300  
 ctacattaaa cgaagctgca ggttaagggg cttanagatg ggaacccagg tgactgagtt 360  
 tattcagctc ccaaaaaccc ttctctaggc gtgtotcaac taggaggcta gctgttaacc 420  
 ctgagccctg gtaatccacc tgcagagtc cgcattcca gtgcatgaaa ccttctggc 480  
 ctccctgtat aagtcragat tgaaccccc ttggaaggnc tccagtcagg cagccctana 540  
 aactggggaa aaaaagaaaag gacgcccac cccccagctg tgcactacg caactcaara 600  
 gcacggggtg gcagcaaaa aaccarttta ctctggcaca aacaaaact ngggggggca 660  
 accccggcac ccnangggg gttaacagga anongggnaa cntgggaccc aattnaggca 720  
 ggcccnccac ccnaatntt gctgggaaat ttttctccc utaatnttt tc 772

<210> 12  
 <211> 751  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(751)  
 <223> n = A,T,C or G

<400> 12  
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 ttggctgtgt tggtagagt gtcatgcaa cagaatgggg gaagggcaat gttctctttg 180  
 aagtanggtg agtcctcaaa atccgtatag ttggtgaagc canagcactt gagccctttc 240  
 atggtggtgt tccacaactg agtgaagtct tcttgggaac cataatcttt ctltgatggca 300  
 ggcaactacca gcaacgtcag ggaagtgtc agccattgtg gtgtacacca aggcgaccac 360  
 agcagctgcn acctcagcaa tgaagatgan gagganagt asgaagaacg tcnnggggc 420  
 accttgcctc tcagtctban caccatanca gccctgaaa accaanahca aagaccarna 480  
 cncggctgc gatgaagaaa tnaccccngg ttgacaaact tgcattggca tggganccac 540  
 agtggcccca aaaatcttca aazaggatgc cccatcnatt gaccccccac atgcccactg 600  
 ccaacagggg ctgccccacn cncnnaacga tganccnatt gnacaagatc tncntggctc 660  
 tnatnaent gaacctgcn tngtggctcc tgttcaggnc cngggetga ctctnaenn 720  
 aangaactcn gaagncccca cngganannc g 751

<210> 13  
 <211> 729  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(729)  
 <223> n = A,T,C or G

<400> 13  
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 tgtggancc cagcagtncc ctctttcaga actcagtgcc aagancctcg aacaggagcc 120  
 accatgcagt gcttcagctt cattaagacc atgatgatcc tcttcaattt gctnalcctt 180  
 ctgtgtggtg cagccctgtt ggcagtgggc atctgggtgt caatcgatgg ggcatacctt 240  
 ctgaagatct tggggccact gtcgtccagt gccatgcagt ttgtcaacgt gggctacttc 300  
 ctcatcgag ccggcgctgt ggtctttagt ctaggcttcc tgggctgcta tgytgctaag 360  
 actgagagca agtgtgccc cgtgacgttc ttcttcctcc tctctctcat cttcatlgt 420  
 gaggttgcaa tgcctgtggtc gccttgytgt acaccacaat ggctgagcac ttctgargt 480  
 tgcctgctat guctgcccac aanaaaagat tatgggttcc caggaaact tcaactcaagt 540  
 gttggaacac caccatgaaa gggctcaggt gctgtggctt cncraacta tccggatttt 600  
 gaagantcac ctacttcana gaaanagtg cctttcccc atttctgttg caatfgacaa 660  
 acgtcccaa cacagccaat tgaanaacct caccacccc aaanggtcc ccaaccanaa 720  
 attnaagg 729

<210> 14  
 <211> 816  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(816)  
 <223> n = A,T,C or G

<400> 14  
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 tgttcagctg aggggttgtg gtacragcgc gggatgctct ccttgccagag tccctgtgtct 120  
 ggcaggtcca cgragtgcgc tctgtcactg gggcaatgga tgcgctggag ctogtcaaag 180  
 ccactcgtgt atttttcaca ggcagcctcg tccgcgcgt cgggycagt gggggtgtct 240  
 tcacactcca ggaaactgtc natgcagcag ccattgctgc agcggaaactg ggtgggctga 300  
 cangtgcag agcacactgg atggcgccct tccatgnaa gggccctgng ggaagctcc 360  
 tgancccca anctgcctcl caaangcccc acctgraca cccgcacagg ctagaatgga 420  
 atcttcttcc cgaaggttag ttnttcttgt tgcccaahcc ancccntaa acaactctt 480  
 granatctgc tccgnggggg tcntantacc ancggtggaa aagaaaccca ggcngcgaac 540  
 caancttgtt tggatncgaa gcnataatct nctnttctgc ttggtggaca gcaccantna 600  
 ctgttnanct ttagnccntg gtccctntgg gttgncttg aacctaatcn ccnntcaact 660  
 gggacaagg aantngccnt cctttnaatt cccnancntn cccctggtt tggggctttn 720  
 cncnctcta cccagaaa nccgtgtter ccccaacta ggggcnaaa ccnnttnttc 780  
 caccacccctn cccacccac ggggtcngnt ggtcng 816

<210> 15  
 <211> 783  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(783)  
 <223> n = A,T,C or G



&lt;400&gt; 15

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atgtggaaag	cacagatttg	cgccactgcn	gggggtgacac	ggatgtcagg	gtagagagga	120
aagacccaaa	ccaggtggaa	clgtggygac	tcaagggaang	caoutaactg	ttccagctga	180
cagtgaclag	ctcagacccac	ccagaggana	cggcacacgt	cacagtcaat	gtgctgtcca	240
ccaagcagac	agaagactac	tgcctcgcat	craacaangt	gggtcgctgc	cgggggcttt	300
tcccacgctg	gtactatgac	ccracggagc	agatctgcaa	gagtttcgtt	tatggaggct	360
gcttgggcaa	caagaacaa	taccttcggg	aagaagagtg	cattctancc	tgtcnggggtg	420
tgcagggtgg	gcctttgana	ngcanctctg	gggtctcange	gactttcccc	caggggccrct	480
ccatggaaag	gagccatcca	ntgtttctctg	gcacctgtca	gcacacccag	ttcrgctgca	540
ncatgggtg	ctgcatonac	antttctctng	aattgtgaca	acacccccca	ntgcccccaa	600
ccctccraac	aaagcttccc	tgtttnaaaa	tacnccantt	ggcttttnac	aaacncccg	660
cncctccntt	ttcccccnnn	aacaaagggt	hctngcnttt	gaactgcccn	aaacnnggaa	720
tctnccnngg	aaaaantncc	ccccctgggt	cctnaancc	cctccncaa	anctncccc	780
ccc						783

&lt;210&gt; 16

&lt;211&gt; 801

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(801)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 16

gccccaattc	cagctgcac	acacccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgabtga	agcaccctc	tacttttttg	tcgtgagcct	tttgcttggt	gcagggttca	120
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ggcactacca	gcacgtcag	gaagtgtca	gcuatgtgtg	tgtacaccac	ggcgaccaca	360
gcagctgcaa	cctcagrac	gaagatgagg	aggaggatga	agaaagaacgt	cncgaggggca	420
cacttgctct	cgtctttng	accatagcag	ccuanguaac	caagagcaca	gaccacaacg	480
cngctgrrga	atgaaagaaa	ntacccacgt	tgacaaactg	cctggccact	ggacgacagt	540
tggcccgaa	atcttcagaa	aagggatgcc	ccatcgattg	aacacccana	tgcccactgc	600
cnacaggggt	gcnccnccn	gaagaatga	gcatttgaa	aaggatontc	ntggtcttaa	660
tgaactgaaa	ccntgcattg	tggccrctgt	tcagggtctt	tggcagtga	ttctganaaa	720
aagggaacng	ntnagccccc	cuaaangana	aaacaccccc	gggtgttgcc	ctgaattggc	780
ggccaaggan	ccctgccccn	g				801

&lt;210&gt; 17

&lt;211&gt; 740

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(740)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 17

gtgagagcca	ggcgtccctc	tgcctgcccc	ctcagtggca	acacccggga	gctgtttctgt	60
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cctttgtgga	gctcagcag	ttccctcttt	cagaactrac	tyccaaagagc	cctgaacagg	120
agccaccatg	cagtgcctca	gcttcattaa	gaccatgatg	atcctcttca	atttgctcat	180
ctttctgtgt	ggtgagccc	tgttggcagt	gggcattctg	gtgtcaatcg	atggggcctc	240
ctttctgaag	atcttcgggc	cactgtcgtc	cagtgcctatg	cagtttgtca	acgtgggcta	300
ctccctcctc	gcagccggcg	ttgtggcttt	tgtctcttgg	ttcctgggct	gctatggtgc	360
taagacggag	agcaagtgtg	ccctcgtgac	gttcttcttc	atcctcctcc	tcactctcat	420
tgtctgaagt	gcagctgctg	tggtcgcctt	ggtgtacacc	acaaatggctg	aaccatttct	480
gacgttgtctg	gtantgctcg	ccatcaanaa	agcttatggg	ttcccaggaa	aaattcactc	540
aentntgyaa	cacncccatg	aaaagggcctc	caatttctgn	tggtttcccc	aactataccg	600
gaattttgaa	agantcncct	tacttccaaa	aaaaaanant	tgcctttctcc	ccctttctgt	660
tgcattgaaa	acntcccaan	acngcccaatn	aaacctgccc	cnmncaaaaa	ggntcncaaa	720
czaaaaaaant	nnaagggttn					740

&lt;210&gt; 18

&lt;211&gt; 802

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(802)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 18

ccgctgggttg	cgctgggtcca	gngnagccac	gaagcacgtc	agcatacaca	gcctcaatca	60
caagggtcttc	cagctgccgc	acattacgca	gggcaagagc	ctccagcaac	actgcataatg	120
ggatatacctt	tacttttagca	gccagggtga	caactgagag	gtgtcgaagc	ttattcttct	180
gagcctctgt	tqgtggagga	agattccggg	cttcagctaa	gtagtangcg	tatgtcccat	240
aaagcaaacac	tgtgagcagc	cggaaaggtag	aggcaaggtc	actctcagcc	agctctctaa	300
cattggggcat	gtccagcagc	tctcraaaca	cgtagacacc	agnggcctcc	agcactgat	360
ggatgagctgt	ggccagcgtc	gcccccttgg	ccgacttggc	taggagcaga	aattgtctct	420
ggttctgccc	tgtcaccttc	acttcgcac	tcctcactgc	actgagtgtg	ggggacttgg	480
gctcaggatcy	tccagagacg	tggttcggcc	ccctccttca	atgacaccgn	ccanncaacc	540
gtcggtctcc	tcagantgng	ttcgtcgtnc	ctgggtcagg	gtctgctggc	cactacttgc	600
aacttctgctc	nggcccragg	aattcacenc	accggaactn	glangatcca	ctnnttctat	660
aacoggncgc	caccgcnnnt	ggaaactrac	tcttnttnc	tttacttgag	ggtaagggtc	720
accctttnccg	ttacettggg	ccaaaccntn	ccntgtgtcg	anattngtnaa	tcnggncna	780
tnccancnc	atangaagcc	ng				802

&lt;210&gt; 19

&lt;211&gt; 731

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(731)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 19

cnaagcttcc	aggtnacggg	cgcnaencc	tgaccnagg	tancanaang	cagncngcgg	60
gagcccaccg	tcacgnngng	gngctcttat	nggagggggc	ggagcccat	cactggacnt	120
cntgaccccc	actcccncc	nccantgca	gtgatgagtg	cagaaactgaa	ggtnacgtgg	180
caggaaacca	ganccaannu	tgtccnntc	caagtgggcn	nagggggcgg	ggctggccac	240
gencatccnt	cnagtgtctn	aaagcccnm	cctgtctact	tgtttgagaa	acngcnngaa	300

catgcccagn	gttanatnac	nggengagag	tnantltgco	tetcccttnc	ggctgcgran	360
ngngentget	tagnngarat	ancctgacta	cttaactgaa	ccnnngaate	tnccnccct	420
ccactaagrt	cagaacaaaa	aacttcgaca	ccactcantt	gtccactgnc	tgtctaaagta	480
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gaagacctat	caattnaagc	tatgtttctg	actgcctctt	gotccctgna	acaanccnacc	600
cnnctntcva	agggggggnc	ggcccccaat	ccccccaacc	ntnaattnan	tttancccn	660
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nnaatccncc	t					731

<210> 20  
 <211> 754  
 <212> DNA  
 <213> Homo sapien  
  
 <220>  
 <221> misc\_feature  
 <222> (1)...(754)  
 <223> n = A,T,C or G

<400> 20						
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caaccccttc	ntccaaatun	ccntttccgg	gnnggggttc	caaacccean	ttanotttgg	120
anottlaaatt	aatnttont	tggnggnnaa	anccnaatgt	nangaaagtt	naaccanta	180
tnancttnaa	tncttggaac	cngtngntt	ccaaaaatnt	ttaaccctta	antccctcrg	240
aatngttna	nygaaacccc	aantttctnt	aaggttgttt	gaaggntnaa	tnaaaanccc	300
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ggnnancccc	ggttantnaa	ccccccnnc	ccccattata	ccganrtttt	ttngaattgg	420
gccccccggg	gaattaacgg	ggnnnnntcc	tnntgggggg	cnngnncccc	ccccctcggg	480
ggttngggnc	aggnccnaat	tgtttaaggg	tccgaaaaat	ccctccnaga	aaaaaanctc	540
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ttgtntcnc	ggcccnccn	aaganccttn	ccganntnan	ttaatccnt	gcctnggcga	720
agtcnnttgn	agggntaaan	ggccccctnn	cggg			754

<210> 21  
 <211> 755  
 <212> DNA  
 <213> Homo sapien  
  
 <220>  
 <221> misc\_feature  
 <222> (1)...(755)  
 <223> n = A,T,C or G

<400> 21						
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nngtanagnc	actnccnttn	natcccnccc	cnccnactac	gcccnnnanc	cnacgcncct	120
nnccanctnc	actganngcg	cganngtngan	ngagaaanct	nataccanag	ncaccanacn	180
ccagctgtcc	nanaangcct	nnnatccngg	nnnatccaat	ntgnancctc	cnaggtattn	240
nnccnccan	gattttccctn	anccgattac	ccntnccccc	tanccctctc	cccccaacna	300
cgagggcnc	ggncnnaagg	nnngcncncc	ccgttagntc	ccnnncaagt	cnccncccta	360
aactcancn	nattacncc	ttcttgagta	tcactccccg	aatctccccc	tactcaactc	420
aaaaanactn	gatacaaat	aatncaagcc	tgnttatnac	actntgactg	ggctctctatt	480
ttagnggtcc	ntnaancntc	ctaatacttc	cagctcncct	tcncccaatt	ccnaanggc	540
ctttcngaca	gcantttttg	gtcccnntt	gggttcttan	ngaattgccc	ttctnngaac	600

gggtctctct	tttctctcgg	tttctctcgg	tttctctcgg	cagttattat	tttctctctt	660
aaattctctc	cttctctctt	tggtctctc	aaattctctc	cttctctctt	gggtctctct	720
aaaaggtctg	tttctctctt	tttctctctt	gttctctct			755

&lt;210&gt; 22

&lt;211&gt; B49

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(849)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 22

tttctctctt	tttctctctt	tgtctctctt	gttctctctt	tttctctctt	gttctctctt	60
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catactctct	gggtctctct	acgtctctct	gttctctctt	tggtctctct	cttctctctt	240
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cgtctctctt	cttctctctt	acgtctctct	gttctctctt	tggtctctct	cttctctctt	420
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&lt;210&gt; 23

&lt;211&gt; 872

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(872)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 23

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tttctctctt	cttctctctt	acgtctctct	gttctctctt	tggtctctct	cttctctctt	360
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ntatcccccg agngcncntc tcaaguctenc cccccccntc ctctgcantg tncctctgctc 840  
tnaccnnkac gantnttcgn cncctctctt cc 872

<210> 24  
<211> 815  
<212> DNA  
<213> Homo sapien  
  
<220>  
<221> misc\_feature  
<222> (1)...(815)  
<223> n = A,T,C or G

<400> 24  
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tcntncatta gtaacaantg tntgtccat cctgtcngan canatterca tnnattnegn 180  
cgcattcnan gcncautatu taatngggaa ntannutnon ncacccncat ctatctncc 240  
gcnccctgac tggmagagat ggalnantt tntntganc nactatgtta tcttggattn 300  
aanancercr cgcngncac cggttngnng cnagccnnc ccaagaccc ctgtggaggt 360  
aaccttgcct aganncatca aacntggga acccgcnnc anglinaagt ngnnncan 420  
gatercgtc aggnctnacc atcccttnc agcgccccc tngtgcctt anagngnagc 480  
gtgtccnanc cnotcaacat ganacgcgc agnucancc caatlngga caatgtcnc 540  
gaacccccta gggggantna tncaanccc caggattgtc unoncangaa atcccnanc 600  
ccnccctac cccncttgg gacngtgac aantccgga glnccagtc ggcngnctc 660  
cccccacggt nccntgggg gggtagaant cngnncanc cngnccaggn ntcgnaagg 720  
accggnccfn ggcggaanng ancnctnga agngccnct cgtataacc cccctcncca 780  
nccnccngnt agntccccc cngggtnccg aangg 815

<210> 25  
<211> 775  
<212> DNA  
<213> Homo sapien  
  
<220>  
<221> misc\_feature  
<222> (1)...(775)  
<223> n = A,T,C or G

<400> 25  
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agtc aaattt cctgaattgc tatgtgtctg ggtttcatcc atccgacatt gaanttgact 180  
tactgaagaa tgganagaga attgaaaaag tggagcattc agacttgtct ttcagcgaag 240  
actggtcttt ctatctctg tactacactg aattcaccoc cactgaaaa gatgagtatg 300  
cctgcccgtg gaaccatgtg actttgtcac agcccaagat agttaagtgg gatcgagaca 360  
tgtaggcagn cnnccatggaa gtttgaaagat gcgcgatttg gattggaatg attccaaatt 420  
ctgcttgcct genttttaat antgatatgc ntatccacc taccctttat gncuccaaat 480  
tgtaggggtt acatnangt tcnctnngga catgatctt ctttataant cncncttct 540  
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tcttaaggaa gggccctgggc cnccttncaa ggttggggga accnaaaatt tcncttntgc 660  
cncnccncca cmtctctgng nncncaantt ggaacccctt cnatccccc tggcctcna 720  
nccctncta aaaaaactn aannogtngc naannnttt acttccccc tacc 775

<210> 26

&lt;211&gt; 820

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(820)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 26

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anattantac agtctaactc. tttcccaagag gtgtgtanag ggaacgggggc cttagaggcat      60
cccanaagata ncttatanea acagtgccttt gaccaaaggag tgcctgggcac atttcctgca      120
gaaaagggtgg cggtecccat. cactcctcct ctcccatagc catcccagag yggtagtag      180
ccatcraagcc ttoggtggga gggagtcang gaaacaaacaa accacagagc anacagacca      240
ntgatgarra tgggcggggag agagcctctt cctgmaccg gggtaggcana nganagccta      300
nctgaggggt ccaactataa acgttaacga cmagatnan cacctgcttc aagtggaccc      360
tctctacctg acnaccagng accnnnaact gcngcctggg garagcctg gganagcta      420
acnnagcact. cactgccc cccatggcgg tncgntccu tggctcctgnc aaggggaagct      480
ccctgttggg attncgggga naccaaaggga nccccctct ccancgtga aggaaaaann      540
gatggaatkt. tnccttccg gccntccc tctccttla caugccct nntactctc      600
tccctctntt nctctgnnc acctttnac ccnnnatte cctbnatga cggannctn      660
ganattccac tncggcctnc cntonatong naanacnaas nactntetna cccnggggat      720
gggnnccctg ntcactctct etttttenct accnccnntt ctttgcctct ccttngatca
780tccaaacntc gntggcctn ccccccnnn tcttttccc
820

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&lt;210&gt; 27

&lt;211&gt; 818

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(818)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 27

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tctgggtgat ggcctcttcc tctcagggg cctclgaactg ctctgggcca aagaatctct      60
tgtttcttct ccgagcccca ggcaggggtg attcagccct gcccaacctg attctgatga      120
ctgagagatgc tgtgacggac ccaaggggga aakagagctc cagggtccag ggaagggcgc      180
ctgctgagca cttccgcccc tcaacctgac cagccctgac catagagctct gggtgggtc      240
tccgcttcaa gggttctgct cttecanaga nccanacaaag tggcgtctgg ccacactggc      300
ttctctcagc cccntccctg gctctganc tctgtcttcc tgtcctgtgc angcnccttg      360
gatctcagtt tccctcncct anngacctct gttctgann tcttcantta actntgantt      420
tatnaccnan tggnotgtnc tgcnnactt taatgggccn gacaggttaa tccctccctc      480
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ctccttttgc ctaccangg gccnnnaccg cccntnctn ggggggcnng gtnnctnnc      600
ctgntnnccc cncctcncnt tncctgtcc cncnncngcn anqcannttc nngtcccn      660
tnnetcttcc ngntnctgnaa ngntnctn tnnnnngn ngtntnctn tccctctenc      720
cnnntgnag tnnntnnnc ncnngnccc nnncnnnnn nggnntnnn tptncnngc      780
ccnncccc ngnattaggg cctccnntct ccggcnc
818

```

&lt;210&gt; 28

&lt;211&gt; 731

&lt;212&gt; DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(731)

<223> n = A,T,C or G

<400> 28

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tcccaacatg	anggtgngt	tctcttttga	angaggggtg	ngtttttann	ccnggtgggt	120
gattnaaccc	catgtgatgg	agnnaaagg	tttnagggat	ttttcggctc	ttatcagfat	180
ntanattoct	gtnaatcggg	aatnatntt	tanncnggaa	aatnttgctc	ccatccgnaa	240
atttctcccg	ggtagtgcac	nttngggggn	cngccangtt	tcccagggtg	ctanaatcgt	300
actaaagntt	naagtgggan	tcaaatgaa	aacctnnac	agagnatccn	taccugactg	360
tnntttacct	tggccctntg	actctgcnng	agcccaatar	ccnngngnat	gtenccnngn	420
unngcgunc	tgaannnnoc	tgnnggetnn	gancatcang	gggtttcgca	tcaaaagcnn	480
cgtttcncat	naaggcactt	tngccctcgc	caaccnctng	ccctcnncca	tttngccgtc	540
nggtctnctt	acgtntntng	cnctnnntn	gancttttnc	ccgcttnggg	naancctcct	600
gnaatgggta	gggnccttnt	tttlnacnn	gnggtntact	aatcnnctnc	acgentnctt	660
tctcnacccc	cccccttttt	caatcccanc	ggcnaatggg	gtctcccnnn	cgangggggg	720
nnnccannnc	c					731

<210> 29

<211> R22

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(822)

<223> n = A,T,C or G

<400> 29

actagtccag	tgtgggtggaa	ttccattgtg	ttgyggncnc	ttctatgant	antnttagat	60
cgtcraacc	tccancctc	cnanange	ctataangaa	nannaataga	netgtcnnt	120
atntntacnc	tcatanacct	cnnaacccac	tccctcttaa	ccctactgt	gcttatngcn	180
tnnctantct	ntggcgctn	cnanccaccc	gtgggcnac	cnngngnat	ctcnatctcc	240
tcnccatntn	gcctananta	ngtnccatcc	ctataccctac	cccaatgcta	nnnetaanen	300
tcnatnantt	annntaacta	ccactgacnt	ngactttcnc	atnanctcct	aatttgaatc	360
tactctgact	cccacngcct	annnattagc	anentccccc	nacnatntct	caacccaatc	420
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ccantggact	ccnatngga	naaaaaaaac	cnnaactctc	tanencnnat	ctcccclaana	600
aatnctectn	naatttactn	ncantnccat	caanccccacn	tgaacnnnaa	ccccgttttt	660
tanatccctt	ctttcgaaaa	cnacccttt	annnccccaa	ctttnggggc	ccccnctnc	720
ccnaatgaag	gncncccaat	cnangaaacg	nccntgaacaa	ancnaggcna	anannntccg	780
canatcttat	cccttanttn	ggggncctt	nccccggggc	cc		822

<210> 30

<211> 787

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

&lt;222&gt; (1)... (787)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 30

cgccgcctg	ctctggcaca	tgcctvctga	atggcatcaa	aagtgalgga	ctgcccatcg	60
ctagagagga	cttctctctcc	tactgtcatt	atggagccct	gcagactgag	ggctuccctt	120
gtctgcagga	tttgatgtct	gaagtcgtgg	agtgtggctt	ggagctcctc	atctacatna	180
gctggagacc	ctggaggggc	tctctcgcca	gcttcccctt	tctctccacg	ctctccangg	240
acaccagggg	ctccaggcag	cccattatct	ccagnangac	atgggtgttc	tcacagggga	300
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aaaagcgggt	tgcntttctg	ggggntccct	cnccttcccc	cctcctctaan	ccctnccgct	720
cggctcgttc	nggtngcggg	gaannggnat	nncctccncc	naagggggng	agnnngntct	780
ccccaaa						787

&lt;210&gt; 31

&lt;211&gt; 799

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)... (799)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 31

tttttttttt	tttttttggc	gatgctactg	tttaattgca	ggaggtgggg	gtgtgtgtac	60
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aacaaaggac	tectgcagcc	ttctctgtct	gtctcttggc	gcaggtccat	ggggaggcct	180
cccgcagggt	gggggcccac	agtcragggg	tgggaggaact	acanggggtg	ggagtggggtg	240
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ccnnngtnc	cccgccagca	gaacanaagg	ntngagccnc	cgcannnnnn	nggtlcnac	780
ctgccecccc	ccnnccngng					799

&lt;210&gt; 32

&lt;211&gt; 789

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)... (789)

&lt;223&gt; n = A,T,C or G



&lt;400&gt; 32

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	120
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	180
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tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	660
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	720
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&lt;210&gt; 33

&lt;211&gt; 793

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{793}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 33

gacagagcat	gttggatggt	ggagcacttt	tctatacgac	ttacaggaca	gcagatgggg	60
aattcatggc	tgttggagca	atanaacccc	agttctarga	gclgctgato	aaaggacttg	120
gactaaaglc	tgaatgaact	cccaatcaga	tgaagctgga	tgattggcca	gaatggaana	180
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gcacagatgc	ctgtgtgact	cgggttctga	cttttgagya	ggttgttcat	catgatcaca	300
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nactcacatt	aattggcttt	gcgtcacttg	cccgttttcc	agtcgggaaa	acctgttctt	660
gocagctgcc	nttaatgaat	cnggcacccc	cccggggaaa	agggcgtttg	cttnttgggg	720
agcctttccc	gcctttctgc	ttcttgaant	ccttcccccc	ggtctttcgg	cttgcgagca	780
acggtatena	cct					793

&lt;210&gt; 34

&lt;211&gt; 756

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{756}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 34

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ancaagtgcg	gggaanagct	gggtcgaetc	angetagttc	ttclggagct	caactctctg	120

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gtgt.cctgga	gcacatactga	tgyangggag	ctaccncaaa	gtnttccctgg	cnnagggtta	480
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ttactgaggg	tttatctgccc	cccttggggt	tatcatggct	acnucngttn	cctgt.gctga	720
aattnttaac	ccccacaa	tccacgctca	cattng			756

&lt;210&gt; 35

&lt;211&gt; 834

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (834)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 35

ggggatctct	anacnacct	gnatgcctgg	ttgtcgggtg	ggtcgcctgc	gatgaanag	60
aacaggatct	tgcctctga	gctctcgggt	gctgtnttca	agtgtgtcag	tctgcccgtca	120
tgtcagaca	cncctctggg	caaaaacac	caggatntga	gtcttgattt	caactccaat	180
aactctcngg	gctgtctgct	cggtgaactc	gatgacnang	ggcagctggg	tgtgtntgat	240
aaantccanc	angtttccct	tggtagactc	cccttcaag	ttgttcgggc	cttcatcaaa	300
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nucanagac	ctnccgctnc	ccctccnng	cagggttggg	ggcannccgg	gcccctgcgc	540
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gganccgtc	tctcccttcc	tgaannaat	ttgaccgtng	gmatagccgc	gntcnccnt	660
acntnctggg	cggggttcaa	antccctccn	ttgcnntcn	cctcggggcca	ttctggattt	720
nccnaacttt	ttcttccccc	cncccnccg	ngtttggntt	ttctatnggg	ccccaaotct	780
gctnttggcc	antccctggg	gggcnctn	cncccccctt	ggtcccnatg	ggcc	834

&lt;210&gt; 36

&lt;211&gt; 814

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (814)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 36

cggncgcttt	cnnccggcgc	ccggtttcca	tgacnaaggc	tccttccang	ttaaatacnn	60
cctagnaaac	attaatgggt	tgtcttacta	atacatcata	cnaaccagta	ngcctgcccc	120
naacgccaa:	tcaggccatt	cctaccaaa	gaagaaaggc	tggctctctcc	accccttgta	180
ggaaaggcct	gccttgtaag	acaccacaa	nccgctgaat	ctnaagtctt	gtgttttact	240
aatgggaaaa	aaataaazc	aanaggtttt	gttctctctg	ctgcccaccc	cagcctggca	300
ctaaacacac	ccagcgctca	cttctgcttg	ganaaatatt	ctttgctctt	ttggacata	360

ggcttgatgg	tatcaactgac	acntttccac	ccagctgggc	ncctctccac	catntttgtc	420
antgancttg	agggcctgaa	ncctagtcac	caaaagtctc	ngccacaaag	acgggccacc	480
aggggagtc	ntttccagtc	gatctgucac	anantaccn	tatcatcnn	gaataaaag	540
gccccgaaac	ganatgcttc	cancancctt	taagaccctt	aatcctngaa	ccatggtgcc	600
cttcgggtct	gatccnaaag	gaatgttctt	gggtcccant	ccctcctttg	ttcttaccgt	660
tgtnttggaac	ccntgctngn	atnaccnaan	tganatccac	ngaagraccc	tacccctggc	720
atttganttt	cntaaattct	ctgcuctacn	netgaaagca	cnatccctn	ggcnccnaen	780
ggngaacctc	agaaggtctn	ngaaaaacca	cncc			814

&lt;210&gt; 37

&lt;211&gt; 760

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{760}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 37

gcctgctgct	cttctcaca	gttgttcttg	ttgcataaac	aaccaccata	ggtaagcgg	60
gcgagtggtt	cgctgaaggy	gttgtagtar	cagcgaggga	tgtctctctt	gcagagctct	120
gtgtctggca	ggtccacgca	atgcctcttg	tcatctggga	aatggatggc	ctggagctcg	180
tcaaacccac	tctgtgtatt	tccacangca	gcctcctccg	aaqctccggg	gcagttgggg	240
gtgtcgtcac	actccactaa	actgtcgatn	cancagucca	ttgtctgagc	ggactctggg	300
gggtcgacag	gtgccagAAC	acactggatn	ggcctttcca	tgggaaggyu	tgggggaaat	360
cncctnanc	caaacctgct	ctraaaggcc	accttgcaaa	cccgacagg	ctagaatgc	420
actctctctc	ccaaaggtag	tgttctcttg	tgcacaagca	ncctccancc	nacaaaaanc	480
tgcacaaatc	tgttccgttg	gggtcatnnn	taccanggtt	ggggaanana	accgggcngr	540
ganccnccct	gtttgaatgc	naaggnaata	atcctcctgt	cttgccttggg	tgggaanagva	600
caattgaact	gttaacnttg	ggcggngttc	cncctngggg	gtctgaaact	aatcaccgltc	660
actggaanaa	ggtangtgcc	tctcttgaat	tcccaaanct	ccctctngntc	tgggtntttt	720
ctcctctncc	ctaaaaatcg	tnttccccc	cctangggcg			760

&lt;210&gt; 38

&lt;211&gt; 724

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{724}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 38

tttttttttt	tttttttttt	tttttttttt	tttttaaaaa	ccccctccat	tgaatgaaaa	60
cttccnaaat	tgtccaaacc	cctcnnccaa	atnucatttt	ccgggggggg	gttccaaacc	120
caaatatatt	ctggantttc	aattaaatnt	tnattngggg	aaaaanccaa	atgtnaagaa	180
aatttaacc	attatnaact	taaatndctn	gaaacccttg	gnttccaaaa	atttttaann	240
cttaaatccc	tcggaaattg	ntaanggaaa	accaaattcn	cctaaggctn	tctggaggtt	300
ngatttaaac	ccctctnanc	tnttttnacc	cnnngctnaa	ncatttngnt	tcgggtgttt	360
tccctnbaan	cctnggtaac	tcccgntaat	gaarunccct	aanccaatta	aacugaattt	420
tttttgaatt	ggaaactccn	ngggaaattna	ccgggggttt	tcccttttgg	gggcatncc	480
ccctcttctg	gggtttgggg	ntagggtgaa	ttttctnnang	ccccaaaaaa	ncctccaaana	540
aaanaactcc	caagntttaa	ttngaatntc	cccttcccca	ggccttttgg	gaagggnggg	600

ttnttggggg cgggggantt cnttcccccnn ttncncncnc cccccnggt aaanggttat	660
ngnnntttggg ttttggggccc cttnanaggac ctcccggaatn gaaatt,aaal cccccgggncg	720
gccc	729

<210> 39  
 <211> 751  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)... (751)  
 <223> n = A,T,C or G

<400> 39	
tttttttttt tttttctttg ctcaatttta atttttattt tgattttttt taatgtctga	60
caacacacata tttatttcac ttgtttcttt tatttcattt tatttgtttg ctgclgctgt	120
tttatttatt tttactgaan gtaggggggga aattttgttg ctttttttcc tttttctgta	180
gycggcctta agctttctaa atttgggaaca tctaagcaag ctgaanggaa aaggggggtt	240
cgcacaaatca ctgggggggaa nggaaggggtt gctttgttaa tcatgacctc tgytggtgta	300
tttaactgctt gtacaattac ntctcacttt taattaatlg tgcnaange tttaattane	360
cttgggggtt cctcccccnn accaaccnnc ctgacaaaaa gtgcengccc ccaatnatg	420
tcccggnnt cttgaaaaca caungengaa ngttctcatt ntcccnunc caggtnaaaa	480
tgaagggtta ccatntttaa cncacactcc acntggcnnn gcctgaatcc tcnnaaannc	540
cctcaannc aatnctnng ccccggtcnc gentongtc cnccggggt ccgggaantn	600
caccccnnga annnntnnc naacnaaatt ccgaaaatat tccnntcnc tcaattccc	660
cnnagactnt cctcnncnn cncaatttt tttnttcac gaacncgnc cnaaaatgn	720
nnnnncctc cnetngtcn naatcnccn c	751

<210> 40  
 <211> 753  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)... (753)  
 <223> n = A,T,C or G

<400> 40	
gtggtatttt ctgtaagatc aggtgttctt cctctgtagg tttagaggaa acacuctcat	60
agatgaaaaa ccccccggga cagcagcact gcaactgcca agcagccggg gtaggagggg	120
cgccttatgc acagctgggc ccttgagaca gcagggttc gatgtcaggc tcatgtcaa	180
tggtctggaa gggcggtctg tacctgcgta ggggcacacc gtcagggtcc accagggaact	240
tctcaaagtt ccaggcaacn tcaattggac acaccggaga ccaggltgatn agcttgggt	300
dygtcataan cgcggtggcg tegtgcgtgg gggctggcag ggcctccgc aggaaggcna	360
ataaaaggta cgcgccggca cgttcact cgcacttctc naunaccatg angttgggt	420
cnaaccacac accannccgg atttcttga nggaattccc aaatctcttc gntcttgggc	480
ttctactgat gccctanctg gttgcengn atgccaannc nccccaancc cgggggtcc	540
aaanacccnn cctctctnct tcatctgggt tntntccnn ggacnlggt tctctcaag	600
gyancccata tctcnaccan tactcact nccccccnt gnnacccanc cttctannn	660
ttccncccg nctctgggc cntcaaanan gcttnacna cctgggtctg ccttcccccc	720
tnccctatct gnacccnncn ttgtctcan tnt	753

<210> 41

<211> 341  
 <212> DNA  
 <213> Homo sapien

<400> 41  
 actatattcca tcaaacaga catgcttcat cccatagact tottgacata gcttcaaatg 60  
 agtgaaccca tcttgattt atatacatat atgttctcag tattctggga gcccttccac 120  
 ttctttaaac cttgttcctt atgaacactg aaataggaa tctgtgaaga gttaaaaagt 180  
 tatagcttgc ttacgtagt agtttttga gtctacattc aatccagaca cttagtccag 240  
 tgttaactg tgattttta aaatatcat ttgagcatc tctttcagag gtattttcat 300  
 ctttacttt tgaattattg tgtttctatc attagggtag t 341

<210> 42  
 <211> 101  
 <212> DNA  
 <213> Homo sapien

<400> 42  
 acttactgaa tttgattctg tgcctctcc tatttagtgt tgtaccataa atactttgat 60  
 gttcaaacca ttttaataa caattttca gtggctcat a 101

<210> 43  
 <211> 305  
 <212> DNA  
 <213> Homo sapien

<400> 43  
 acatctttgt cacagcttaa gatgtgtct taaatcaca tctcttctg gtcctccac 60  
 tccaggttg tctcacactg taattagagc tattgaggag tctttacagc aaattaagat 120  
 ccagatgct tgcatagtct agagttctag agttatgtt cagaaagct aagaaaccca 180  
 cctcttgaga ggtcagtaaa gaggaattaa tatttcatc ctacaaatg accacaggat 240  
 tggatacaga acgaggttca tcttgataa ctccagagct agtacttgc vgggggccc 300  
 t.cga 305

<210> 44  
 <211> 852  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(852)  
 <223> n = A,T,C or G

<400> 44  
 acataaatct cagagaaag tagtctttga aatattttag tccaggagtt ctttattct 60  
 gattatttgg tgtgtgttt ggtttgtgt caaagtattg gcagcttcag ttttcatttl 120  
 ctctccatcc tggggcatc ttcccaatt tatataccag tcttcgtcca tccacargct 180  
 ccagaatttc tctttttag taatatctca tagctcggt gagctttca taggtcatgc 240  
 tgcgttgtt cttctttta ccccatagc gagccactgc ctctgattc aagaaactga 300  
 agacgctct agatcggct tcccatttta ttaactctgg gttcttgtct gggctcaga 360  
 ggatgtcgc gatgaattcc cataagttag tccctctcgg gtttgtgttt ttggtgtgg 420  
 acttggcagg ggggtcttgc tctttttca tatcagggtg ctctgcaca ggaaggtgac 480  
 tgggtggtgt catgagatc tgagcccggt aggaagtttt gctgtccac aatctactg 540  
 tgtaccata gttggtgtca talcaatagt cctngtctt ccaaggtgtc atgatggaag 600

```

getcagtttg ttcagtccttg acaatgarat tgtgltgtga ctgggaacagg tcartactgc      660
actgggcgll ccacttcaga tgcctgcagg tgcctgtagag gaagtcgcac gccatccctg      720
ccgcgcgggt gaactcctgc aaactcatgc tgcgaaggtg ctgcgcgttg atgtcgaaat      780
cntggaagg gatcaattg gcatccagct ggttggtgtc caggaggtga tggagccact      840
cccaacctg gt                                     852

```

&lt;210&gt; 45

&lt;211&gt; 234

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 45

```

acaaacagacc ctgctcgtct aacgacctca tgcctcatca gttgggcgaa tccgtgtccg      60
agtcctgacac catccggagc atcagcattg cttegcagtg cctaccgcg gggaaactct      120
gctctgcttc tggctggggt ctgctggcga acggcagaat gccaccgtg ctgcagtgcc      180
tgaacgtgtc ggtggtgtct gaggaggtct gcagttaagt ctatgaccg ctgc      234

```

&lt;210&gt; 46

&lt;211&gt; 590

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(590)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 46

```

actttttatt taaatgttta taaggcagat ctatgagaat galagaaac atgggtgtgt      60
atttggatagc aatatttttg agattacaga gttttagtaa ctaccaatta caacgttaaa      120
aagaagataa tatattccaa gonnatacaa aatatotaat gaaggatcaa ggcaggaaaa      180
tgantataac taattgacaa tggaaaatca attttaatgt gaattgcaca ttatctttta      240
aaagctttca aanaaaanaa ttattgcagt ctanttaatt caaacagtyt taaatgggat      300
caggataaan aactgaaggg canaaagcat taattttcac ttcatgtaac ncaaccunat      360
ttacaatggc ttaaatggan ggaanaagca gtggaagtat ggaagbanto aaggtcttgc      420
tggctctcaa totgccttac tctttgggtg tggctttgat cctctggaga cagctgccag      480
ggctctgttt atatccaca tcccagcagc aagatgaagg gatgaaaag gacacatgct      540
gccttccctt gaggagactt catctcactg gccaacactc agtracatgt      590

```

&lt;210&gt; 47

&lt;211&gt; 774

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(774)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 47

```

acaaagggggc ataatgaagg agtggggana galtttaag aagggaaaa aacgagggccc      60
tgaacagaat ttctctgnac aacgggggtt caaaataatt ttcttgggga gattcaagac      120
gcttcactgc ttgaacctta aatggatgtg ggaannatt ttctgtaatg accctgaggg      180
cattacagac gggactctgg gaggaaaggt aaacagaagg gggacaaagg cttautccaa      240
aacatcaagg aaaggagggt aggttcatac ctccuagcct acacagttct ccagggtctt      300

```

```

cctcattccct: ggaaggacgac agtggaggga ccaatgacca tgcacccagg ctccctgctg 360
ctggctcctg gtcttcagcc cccagctctg gaagccccc ctctgctgat cctgcgtggc 420
ccacactcct. tgaacacaca tccccagggt. ctattctctg acatggctga acctcctall 480
cctacttccg agatgccttg ctccctgcag cctgtcaaaa tcccaactcar cctcccaacc 540
acggcatggg aagcctttct gacttgcttg attactccag catcttggaa caatcctga 600
ttccccctc cttagaggga aagatagggtg gtttaagagta gggctggacc acttggagcc 660
aggctgcttg cttcaacttc tggtcatttt acgagctatg ggaccttggg caagtactct 720
tcaattctat gggctcatt tctttctacc tgcataatgg gggataataa tagt 774

```

&lt;210&gt; 48

&lt;211&gt; 124

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{124}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 48

```

canaaattga aatttttataa aaaggcattt tctctctata tccataaaa. gatataattt 60
ttgcaantat anaantgtgt cataaattat aatgttcctt aat. lccagct caacgcaact 120
tggt 124

```

&lt;210&gt; 49

&lt;211&gt; 147

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{147}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 49

```

gcgatgcta ctattttatt ggaaggaggtg ggggtgcttt tattattctt tcaacagctt 60
tgtggctaca ggtggtgtct gactgcatna aaaaattttt tccgggtgat tgcataaatt 120
ttagggcacc catarcccaa gcaantgt 147

```

&lt;210&gt; 50

&lt;211&gt; 107

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 50

```

acattatatt aataaaggga ctgttggggc tetgtataaaa cacatgggctt gatataattgc 60
atgggtttgag gttaggagga gttaggcata tgttttggga ggggggt. 107

```

&lt;210&gt; 51

&lt;211&gt; 204

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 51

```

gtcctaggga gtctaggagg cacacgactc tgggttccag ggggcggcac acttgcangy 60

```

cgggaaaggaa aggcagagaa glnacacccgt caggggggaaa tyacagaaag gaaatcaag	120
gccttgcaag glcagaaagg ggactcaggg cttccaccac agccctgccc cacttgccc	180
cctccctttt gggaccagca atgt	204

<210> 52  
 <211> 491  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> {1}...{491}  
 <223> n = A,T,C or G

<400> 52	
acaaagataa celttatctt ataacaaana ttgatagctt ttaaaggltt gtattgtgta	60
gggtatcttt caaaagacta aagagatanc tcaggtaaaa agttgaaat gtataaana	120
ccatcagaca gggtttttaa aaacaacata ttacaaatt agacaatcat cttaaaaaa	180
aaaaactctt gtatcaattt ctttctgton aatgactga ttatattatt ttttaattt	240
tcanaaacac ttcttcaaaa attttcaana tggtagctt canatgtnc ctcagtcctc	300
atgttgcttc gatnaataaa tctcgtgaga acttaaccac caccacaagg tttctggggc	360
atgcaacagt gtcttttctc tttttttct tttttttt ttacaggcac agaaactcat	420
caattttatt tggataacaa aggtcttcca atttatattg aaaaataat ccaagttaet	480
atcactcttg t	491

<210> 53  
 <211> 484  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> {1}...{484}  
 <223> n = A,T,C or G

<400> 53	
acataattta gcaaggctaa ttaaccataag atgctattta ttaanaggtn tatgatctga	60
gtattaarag ttgctgaagt ttggatattt tatgcagcat ttctcttttg ctttgataac	120
actacagaa ccttaaggac actgaanaat agtaagttaa gtacagaaac attagctgct	180
caatcaaatc tctacataac actatagtaa ttaaacgctt aaaaaaaagt gttgaaatct	240
gcactagtat anaccgctcc tgcaggata anactgctt ggaacagaaa gggaaanaac	300
agctttgank ttctttgtgc tgaataggag aaaggctgaa ttaccttggt gctctccct	360
aatgattggc aggtcnggtt aatnccaaaa catatcccaa ctcaacactt cttttccncc	420
tacttgant ctgtgtattc caggancagg cggatggaat gggccagccc ccggatgttc	480
cant	484

<210> 54  
 <211> 151  
 <212> DNA  
 <213> Homo sapien

<400> 54	
actaaacctc gtgcttgta actccatata gaaaacggty cctccctga acacggctgg	60
ccactgggtt tactgtgac aacgcacac acaaaaacac aatccttg cartggctag	120
tctatgtct ctcaagtgc tttttgttg t	151



<210> 55  
 <211> 91  
 <212> DNA  
 <213> Homo sapien

<400> 55  
 acctggcttg tctccgggtg gtccccggcg ccccccacgg tcccaagAAC ggaacattc 60  
 gccctccagt ggatactga gcaaaagtgg t 91

<210> 56  
 <211> 133  
 <212> DNA  
 <213> Homo sapien

<400> 56  
 ggccggatga cgttgggtat atacaatat gtcatttlat gtaagggact tgagtatact 60  
 tggatttttg gtatctgtgg gtctggggga cggctcagga accaataacc catggatacc 120  
 aagggaacac tgt 133

<210> 57  
 <211> 147  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(147)  
 <223> n = A,T,C or G

<400> 57  
 actctggaga acctgagcgc ctgctccgcc ctctgggatga ggtgatgcan gcnctggcgc 60  
 gactgggagc tgagcccttc cctttgcgc tgcctcagag gattgttgcg gaentgcana 120  
 tctcantggg ctggatncat gcagggt 147

<210> 58  
 <211> 198  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(198)  
 <223> n = A,T,C or G

<400> 58  
 acagggatat aggttttag ttattgttat tgcataatan attgaatttt ctgtatactc 60  
 tgattacata catctatcct tcaaaaaga tgtaatctt aatttttatg ccacttatcc 120  
 atttacnast gatttacctt gtaaatgaga agtcatgata gcaactgaatt tcaactagtt 180  
 ttgatttcta agtttgggt 198

<210> 59  
 <211> 330  
 <212> DNA  
 <213> Homo sapien



<210> 65  
 <211> 377  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (377)  
 <223> n = A,T,C or G

<400> 65  
 acaacaanaa nt.ccccttctt taggcccactg atgggaacact ggaacccccc tttgatggca 60  
 gcctggcgctc ctaggccttg acacagcggc tgggggtttgg gctntcccaa accgcacacc 120  
 ccaacccctgg tctacccaca ntcttggtta tgggctgtct ctgcactga acatcagggc 180  
 tggglcataa natgaaatcc caanggggac agaggctcagt agaggaagct caatgagaaa 240  
 ggtgctgttt gct.cagccag aaaaacagctg cctgguatcc ggcgctgaa tatgaacccg 300  
 tgggggtttaa ctacccccc gaggaatcat gcttgggcga tgggaanggtg ccaacaggag 360  
 gggcgggagg agcatgt 377

<210> 66  
 <211> 305  
 <212> DNA  
 <213> Homo sapien

<400> 66  
 acgcctttcc ctacgaattc agggaaagaga ctgtcgactg ccttctctcg ttgttgctg 60  
 agaacccgtg tggcccttcc caacatatac accctcgctc catctttgaa ctcaaacang 120  
 aggaactaac tgcacccctgg tctcttcccc agtcccccag t.cacccctca tccctcagct 180  
 tctctcactc taagggatct caacactgcc cagcacaggg gccctgaatt tatgtggttt 240  
 ctatatattt tttaataaga tgcactttct gtcatctttt atcagagctc gaagaattac 300  
 tgttt 305

<210> 67  
 <211> 385  
 <212> DNA  
 <213> Homo sapien

<400> 67  
 actaacaaca ctcaacttgc cctctgtgaga cacttttgtcc cagcacttta ggaatgctga 60  
 ggtcggacca gccacatctc atgtgcacga ttgcccagca gacatcaggt ctgagagctc 120  
 ccttttttaa aaaggggact tggcttaaaaa agaagctctag ccargatctg ctgagcagc 180  
 tgtctgtgtc tggagattca cttttgagag agttctctc tgaagacctga tctttagagg 240  
 ctggggcagtc ttgcacatga gatggggctg gtctgatctc agcactcctt agtctgcttg 300  
 cctctcccag ggcaccagcc tggccacacc tggctacagg gcaactctcag atgcccatc 360  
 catagtttct gtgctagtgg accgt 385

<210> 68  
 <211> 73  
 <212> DNA  
 <213> Homo sapien

<400> 68  
 acttaacag atatatcttt accccagatg gggatcttct ttgtaaaaa tggaaataaa 60  
 gtttttttaa tgg 73

<210> 69  
 <211> 536  
 <212> DNA  
 <213> Homo sapien  
  
 <220>  
 <221> misc\_feature  
 <222> (1)... (536)  
 <223> n = A,T,C or G

<400> 69  
 actagtccag tgtgggtggaa ttccattgtg ttggggggtc tcacctctct ctctgcagc 60  
 tccagctttg tgccttgct ctgaggagac catgtgccag catctyagta ccttgctgct 120  
 cctgctggcc accctagctg tgggucctggc ctggagcucc agggaggagg ataggataat 180  
 cccgggtggc alctatnuc cagacctcaa tcatgagtgg gtacagcgtg ccttccactt 240  
 cgcctcagc aggtataana aggcaccaa agatgactac tucagacgtc cgtgctgggt 300  
 actaagagcc aggcaccaa ccttgggggg gytgattac tcttctgacg tagaggtggg 360  
 ccgaaacctc tgtaccaagt cccagcccaa ctgggacac tgtgcttcc atgaaacagc 420  
 agaactgcag aagaaccagt tgtgctcttc cagatctac gaaatctct ggggagacaa 480  
 gaaggtcctt ggtgaaatc caggtgtcaa gaaatctan ggtctgttg ccaggc 536

<210> 70  
 <211> 477  
 <212> DNA  
 <213> Homo sapien

<400> 70  
 atgaccccta acaggggccc tctcagccct cctaattgac tcgggtctag cctgtgtgatt 60  
 teacttccac tccatcagcc tctctatant aggcctacta accaaccac taccatata 120  
 ccgatgaggg ccgctgttaa caggaggaag cactatccaa ggcacccaca caccacotgt 180  
 ccacaaaggc ctccgatccg ygataatcct atttattacn tcagaagtlc tttctctcgc 240  
 agggatcttc ctgagctttc taccacccaa gcttagcccn taccucccaa ctaggagggc 300  
 actggccccc aacagccac ccccgctaa atcccttaga agtccactc ctacacacat 360  
 ccgattactc cgcctcagga gtatcaatc cctgagctca ccatagctca atagacaca 420  
 accgaaccca aattattcaa agcactgctt attcacaatt tactgggtct ctatctt 477

<210> 71  
 <211> 533  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)... (533)  
 <223> n = A,T,C or G

<400> 71  
 agagctatag gtacagtgtg atctcagctt tgcacacaca ttttctacat agtagtact 60  
 aggtattaat gtatatgtaa agaaagaaat cacaccatta ataatggtaa galaggttta 120  
 tgtgatttta gtggtatttt tggcaccctt atatatgttt tccaaacttc cagcagtgat 180  
 attatttcca taacttaaaa agttaggttcg aaaaagaaaa tctccagcaa gontctcatt 240  
 taaataaagg tttgtcatct ttaaaaatcc agcaatatgt gactttttta aaaagctgtc 300  
 aaatagggtg gacccactc ataatattta gaalacatt taaaaacatc ggtacctca 360  
 agtcagtttg ccttgaaaaa tatcaaatat aaotcttaga gaagtgtaca taaaagantg 420  
 ctctgttaatt ttggagtang aggttccctc ctcaactttg tatctttaa aggtacatgg 480  
 taaaaaaacc atttcaaac agtatataag gctgtaaaat gaaagattct gcc 533

<210> 72  
 <211> 511  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(511)  
 <223> n = A,T,C or G

<400> 72  
 tatctacggga aaacacacca cataattcaa ctanccanaga anactgcttc agggcgtgta 60  
 aatgaaagg ctccaggca gttatctgat taaagaacc taaagaggga acagggctaa 120  
 aagccgcagg atgtctacac tatancaggc gctatttggg ttggctggag yagctgtgga 180  
 aacatggan agattggtgc tgganacgc cgtggctatc cctcattgtt attacanagt 240  
 gaggttccct gtgtgcccac tggtttgaaa accgtttctc aataatgata gaatagtaca 300  
 cacatgagaa ctgaaatggc ccaaaccccg aaagaaagcc caactagatc ctacagannac 360  
 gcttctaggga acataaccg atgaagaaaa galggcctcc ttgtgcccc gtctgttatg 420  
 ntttctctcc attgtagcna naacccggtt ctctcaagca aacnucagtg atgatggcna 480  
 aatataccc cctcttyag naccnggagg a 511

<210> 73  
 <211> 499  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(499)  
 <223> n = A,T,C or G

<400> 73  
 cagtgcacgc actggtagca gtaccagtac caataaccgt gccagtgcca gtgcacagcac 60  
 cagtggatggc ttcagtgctg gtgcccagcc gccggccact ctccatcttg ggcctcttgc 120  
 tggccttggg ggagccgggt ccagcaccag tggcagctct ggtgcctgtg gtttctctca 180  
 caagtgaat tttagatatt gttaatcctg ccagtccttc tcttcaagcc aggggtgcac 240  
 ctacgaacc tactcaacc agcaactctg gcagccacca tcaatcaatt gaagttgaca 300  
 ctctgcatta atctatttg caatttctga aaaaaa aaaaaagggg cggcgcctng 360  
 antctagagg gcccgcttca acccgctgat cagcctcgac tgtgccttct anttgcacgc 420  
 catctgttct ttgcacctcc ccggtgctt tcttgacct tggaaagtgc cactccact 480  
 gtctttct aattaaat 499

<210> 74  
 <211> 537  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(537)  
 <223> n = A,T,C or G

<400> 74  
 tttcatagga gaacacactg agagatact tgaagaattt ggattcagcc gcaagagat. 60

```

ttatcaggtt: aactcaguta aaatcaltga aagtcataag gtaaaagcta gtctctaact 120
tcacagccca cggctcaagr gaatttgaat actgcattta cagtgtagag taacacataa 180
catctgtatgc atggaaacat ggaggaaacag talctacagt tectaccact ctatcaaga 240
aagaattac agactctgat tclacagtga tgattgaatt claaaaatgg taatcattag 300
ggcttttgat ttatcaatct ttgggtactt atactcaatt atggtagtla tactgcctt: 360
cagtttgott gatataattg ttgacattaa gattcttgac ttatatttg aatgggttct 420
actgaaaaan gaatgatata ttcttgaaga cctcgaata catttattla cactcttgat 480
tutacuatgt agaaaatgaa ggaatgccc caaatttgtat ggtgatataa gtcccgct 537

```

&lt;210&gt; 75

&lt;211&gt; 467

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(467)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 75

```

caaanacaat tgttcaaaag atgcaaatga taaactactg ctgragctca caaacacctc 60
tgcatattac acgtacctcc tctgtctct caagttagtg ggtctatttt gccatcacta 120
cctgctgtct gcttagaaga acggtttct gctgaangy agagaaatca taacagacgg 180
tggcacaagg aggcacatct tctctcatcg gttattgtcc ctagaagcct ctcttgagga 240
tctagtctgg cttctcttct gggtttgggc ctttcanll ctcatgtgtg tactattcta 300
tcattattgt ataacggtt tcaaaccngt gggcacncag agaacctcac ttgtataaa 360
caacagaggaa tagccacggg gatctccagc accaaatctc tccatgttnt tccagagctc 420
ctcragcraa cccaatagc cgtctctatn gtgtagaaca tccctgn 467

```

&lt;210&gt; 76

&lt;211&gt; 400

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(400)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 76

```

aagctgacag catcggggc gagatgtctc gctcgtggc cttagctgtg ctgcgctac 60
tctctcttct tggcctggag actatccagc gtaactccaa gattcaggtt tactcagtc 120
atccagcaga gaattggaaag tcaaatllcc tgaattgcta tglgtctggg ttctatccat 180
ccgacattga agttgactta ctgaagaatg gagagagaaat tgaaaaagtg gagcattcag 240
acttgtcttt cagcaaggac tggctcttct atctcttgtc ctacactgaa ttacccccc 300
ctgaaaaaga tgaatgtgac tgcctgtgga acuatgtgac ttgtctcacg cccagatng 360
tttagtggga tganacatg taaycagcan catggggggt 400

```

&lt;210&gt; 77

&lt;211&gt; 248

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 77

```

ctggagtgcc ttggatcttc agcccttgc agghagcaga atgcacnttc ttaggcacct 60

```

```

ccagctgccc cggcggggga tgcgagggctc ggagcaccct tgcggggctg tgattgctgc      120
caggcactgt tcatccagc tttctgtcc ctttgcctcc ggcaagcgtc tctgtgaaa      180
gttcattctc ggagcctgat gtcttaccga ataaaggctc catgctccac ccgaacaaan      240
aaaaaaaaa      248

```

```

<210> 78
<211> 201
<212> DNA
<213> Homo sapien

```

```

<400> 78
actagtccag tggagtgga ttccattgtg ttcgggcaca cacaatggct acccttaaca      60
tcacccagac ccgcacctgc cngtgcacca cgtgctgct aacgacagta tcatgcttac      120
tctgctactc ggaaacatct tttatgtaac taatgtatgc tttcttgctt ataatgcct      180
gatttcacaa aaaaaaaa a      201

```

```

<210> 79
<211> 552
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (552)
<223> n = A,T,C or G

```

```

<400> 79
tccttcttgt aggtctttga gacaaccctc gacctaaact gtgtcacaga cttctgaatg      60
tttaggcagt gctagtaall tctcgtact gattctgtta ttaacttctt atctcttact      120
cctctttctt ctgaagatta atgaagttgc aacttgaggt ggataaatcc aaaaaggtag      180
tgtgatagta taagtatctc agtgacagtg aagtgctgtt atatatatcc atccaaactt      240
atgcaagtta gtaattactc agggttaact aacttacttt aatatgctgt tgaacctart      300
ctgttccttg gctagaaaaa atctataaca ggaactttgt agtttygga gccaacttga      360
taatatctca tgtttacaaa gttgggctat acctaaanta tnaagaaata tgggatttta      420
ttcccaaggaa tatggggttc atttatquat antacccggg anagaaagtt tgantnaaac      480
cngttttggg taatacgtta atatgtcttn aatnaacaa gcntgactta tttccaaaaa      540
aaaaaaaaaa aa      552

```

```

<210> 80
<211> 476
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (476)
<223> n = A,T,C or G

```

```

<400> 80
acagggattt gagatgctaa ggccccagag atcgtttgat ccaaccctct tattttcaga      60
ggggaaaaat gggcctagaa gttacagagc atctagctgg tgggctggca cccctggcct      120
cacacagant ccggagtagc tgggactaca ggccacacag cactgaagca ggccctgttt      180
gcaattccag ttgccacctc caacttaaac attcttcata tctgtatgtc ttagtcacta      240
aggttaaaat ttcccaacca gaaaaggcaa cttaagataa atcttagagc accttcatac      300
tcttctaaat cctcttcag cctcactctg agtctcctt gggggttgat aggaantctc      360

```

tcttgggttt. ctcaataaaa tctctatccc tctcatgttt aatttgggtac gcntaaaaat. 420  
 gutgaaaaaa ttaaatgtt clggttttccc tttaaaaaaa aaaaaaaa 476

<210> 81  
 <211> 232  
 <212> DNA  
 <213> Homo sapien  
 <220>  
 <221> misc\_feature  
 <222> (1)...(232)  
 <223> n = A,T,C or G

<400> 81  
 tttttttttg tatgcctctc ctgtggngtt attgttgcct ccacacctgga gggagccagat. 60  
 ttcttttcta tttttttttt ctggggggatc ttcttgggtc tggccctccc tttccagcct 120  
 ctcatcccc tcttgcatt ttgctagggg tggagggcgt ttcttggtag cccctcagag 180  
 acccagtcag cgggaataag tccctagggg ggggggtgtg gcaagccggc ct 232

<210> 82  
 <211> 383  
 <212> DNA  
 <213> Homo sapien  
 <220>  
 <221> misc\_feature  
 <222> (1)...(383)  
 <223> n = A,T,C or G

<400> 82  
 aggcgggagc agnagctaaa gccaaagccc auyagagtg gcagtgcag cactgggtgcc 60  
 agtaccagta ccaataacat ggcagtgcca gtgccagcac cagtggtygc ttcatgtctg 120  
 gtgccagccg gacccacct ctacatttg ggtctctcgc tggccttggg ggagctgggtg 180  
 ccagcaccag tggcagctct ggtgacctgt gttctccta caagtggat tttagatatt 240  
 gttaattctg ccagttctt tttcaagcc aggttgcat ctcaaaacc tactcaaac 300  
 agaacctctg ccagcacta tcaatcaatt gaagttagca ctctgcatta aatctatttg 360  
 ccatttcaa aaaaaaaa aaa 383

<210> 83  
 <211> 494  
 <212> DNA  
 <213> Homo sapien  
 <220>  
 <221> misc\_feature  
 <222> (1)...(494)  
 <223> n = A,T,C or G

<400> 83  
 accgaatttg gacgctggc ttctagcga tcatgtctc cagtattacc tcaacgagca 60  
 gggagatcga gtctatacgc tgaagaaatl tgaucagatg ggacaacaga cctgtctcagc 120  
 ccatactgtt cgtttctccc cagatgaca atactctcga caccgaatca ccatcaagua 180  
 acgcttcaag gtgtctatga cccagcaacc ggcacctgtc ctctgagggg ccttaactg 240  
 atgtcttttc tgcacctgt taucacctcg agactccgtt accaaactct tgggctgtg 300  
 agccctgatg cctttttgac agccatactc tttggctccc agtctctctg ggcgattgat 360



catgcttctg	tyaggcaatc	atggtggcat	caccatnaa	gggaacacat	ttgattttt	420
tttncatat	tttaaattac	naccayaatc	nttcagaatc	atgaaattga	aaaactctta	480
aaaaaaaaaa	aaan					494

<210> 84  
 <211> 380  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(380)  
 <223> n = A,T,C or G

<400> 84	
gctggtagcc	60
atgtatctgc	120
gaggaacatg	180
gcacacccctc	240
gtgtgtctcc	300
ccatgttcag	360
agcgttccgc	380

<210> 85  
 <211> 481  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(481)  
 <223> n = A,T,C or G

<400> 85	
gagtttagctc	60
ttccatctgc	120
ggaaactctc	180
tgtgaaagga	240
gtcgaattctg	300
ctatcatgcr	360
ccagattctg	420
aaagaacac	480
t	481

<210> 86  
 <211> 472  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(472)  
 <223> n = A,T,C or G

<400> 86

```

aacatcttcc tgtataatgc tgtgtaatat cgatccgacn ttgtctgctg agaatccatt    60
aattgggaaa gcaacttnaa ggcgggacac tggattttaa attcacaala tgcacactl    120
taaacagtgt gtaaalctgc tcccttactt tgtcatcacg agtctgggaa taagggtatg    180
ccctattcac acctgttaaa agggcgclaa gcatttttga ttcaacatcl ttttttttga    240
cacaagtcag aaaaaagcaa aagtaaacag ttnttaattl gttagcaaat tcactttctt    300
catgggacag agccatttga tttaaaaaagc aaattgcata atattgagcl ttgggagctg    360
atatntgagc gggaagancag cttttctact taccagaca caactccctt catattggga    420
tgttuacnaa agtcatgtct cttaacagatg ggtatgtttt gtggcaattc tg          472

```

<210> 87  
 <211> 413  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(413)  
 <223> n = A,T,C or G

```

<400> 87
agaaaccagt atctctnaaa acaaacctct ataccttgct gacctaatct tgtgtgagtg    60
tgtgtgtgag cgaatattct atagacaggc acatcttttt tacttttgta aaaggttatg    120
ctctcttggt atctatatct gtgaaaattt taatgatctg ccatgatgtc ttggggacct    180
ttgtctcttg tglaaatggt actagagaaa acacctatct tatgagtcac tctagttngt    240
tttattcgac atgaaggaaa ttccnagatn acnacaactna caaactclcc cttgactagg    300
ggggacaaag aaaaagcnaa ctgaacatna gaaacaattt cctggtgaga aattttatag    360
acggaaacty ggtngtatat tgaaanang catcattnaa acgttttttt ttt          413

```

<210> 88  
 <211> 448  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(448)  
 <223> n = A,T,C or G

```

<400> 88
cgcagcgggt cctctctatc tagctccagu ctctcgcttg ccccactccc cgcgtccgcg    60
gtcctagccn accatggcgg ggcccttgcg cgcctcgctg ctctctgttg ccatcctggc    120
cgtggccttg gccgtgagcc ccgcggcgcg ctccagtcct ggcaagccgc cgcgcctggt    180
gggagggccc tgyacccgcg gtggaagaag aagggtgtgc gctgcaactg gactttgctg    240
tcggcnanta caacaaaccc gcaacnactt ttaccnagcn cgcgctgcag gttgtgcgcg    300
cccaancaaa ttgttactng gggtaantaa ttcttgyaag ttgaacctgg gucnaacnng    360
tttaccagaa ccaagccaat tngaacaatt nccctccat aacagccctt tttaaaaagg    420
gaanvanteo tgnctctttc caaatttt          448

```

<210> 89  
 <211> 463  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature

<222> (1)...(463)

<223> n = A,T,C or G

<400> 89

gaattttgtg	cactggccac	tgtgatggaa	ccattgggac	aggatgcttt	gagtttatca	60
gtaagtattc	tgcacaagtt	ggtgttgraa	catgaagtatg	taaaatglaa	aaanatttagc	120
agaggtctag	gtctgcatac	caggagacag	tttgtcngtg	tattttgtag	ccctggaggtt	180
ctcagtgaca	agtttmttct	gatgcgaagt	lctnattcca	gtgttttagt	cccttgcatc	240
tttnatgttn	agacttgcc	ctntnaaatt	gcttttgnt	tctgcaggta	ctatctgttg	300
tttaacaaa	tagaannact	tctctgcttn	gaanatttga	atacttaca	cttnaaaatn	360
aattctctcc	ccatannaac	acccangccc	ttggganact	ctgaaaaang	gntccttorn	420
aattcnnana	anttcagntn	tcatacaaca	naavtgganc	ccc		463

<210> 90

<211> 400

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(400)

<223> n = A,T,C or G

<400> 90

agggattgaa	ggtctntnt	actgtcggac	tgttcannca	ccaactctac	aggttgcgtg	60
cttccartca	ctgtctgtac	gcctnttaac	ccagactgta	tcttcataaa	tagaacaact	120
tcttcaccag	ccacatcttc	taggaccttt	ctggattcag	ttagtataag	ctcttccact	180
tcctttgtta	agacttcata	tggtaaaagt	cttaagtttg	tggacaggaa	tttaattgct	240
cgttctctaa	caatgtcttc	tccttgaagt	atttggctga	acaacccacc	tnaagtccct	300
ctgtgcaccc	attttaaata	cacttaatag	ggcattggtn	cactaggtta	aattctgcaa	360
gagtcacttg	ctgtgcaaaag	ctgcgttagt	atctctgcca			400

<210> 91

<211> 480

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(480)

<223> n = A,T,C or G

<400> 91

gagctoggat	ccaataactt	ttgtctgagg	gcagcanaca	tatncagtgc	catggnaact	60
ggtctacccc	acatgggagc	agcatgcngt	agntatataa	ggtcatbccc	tgagtcagac	120
atgctctttt	gactacagtg	tgcagtgct	ggtgatcttc	acacacctcc	nnccgctctt	180
tgtggaaaac	ctggcacttg	ncctggaaact	gcaagacatn	acttacaact	tcacccacga	240
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<210> 92

<211> 477

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(477)

<223> n = A,T,C or G

<400> 92

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<210> 93

<211> 377

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(377)

<223> n = A,T,C or G

<400> 93

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caacaacaaa	ataacatgtt	tgcctgttnc	gttgtataaa	agtangtgat	tcgtatntca	300
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<210> 94

<211> 495

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(495)

<223> n = A,T,C or G

<400> 94

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ccaaggaaa	accaccttct	ggggacatgg	gctggaggac	aggacctaga	ggvaccaagg	180
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acacccccc	agancancca	cccgcacatg	ggaatglnct	caaggaaatcg	ungggcaang	420
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495

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 <212> DNA  
 <213> Homo sapien  
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 <223> n = A,T,C or G

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 atcggcgaag tgtggagtgt atgtttcttt cacagtaata tatgcctttt gtaacttcac 360  
 ttggttattt tatctgtaat gaattacaga attcttaatt taagaaatg gtangttata 420  
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<210> 96  
 <211> 476  
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 <213> Homo sapien  
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 <223> n = A,T,C or G

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 ttttaactca tgattttctac acacacaatc cagaacttat tatatagcct ctlaagtcttt 180  
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<210> 97  
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 <212> DNA  
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 <223> n = A,T,C or G

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gtgattatna	aatcaatcav	aaatttcact	tcacutgct	atragcagcl	ayaaaaacet	360
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&lt;210&gt; 98

&lt;211&gt; 461

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 98

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&lt;210&gt; 99

&lt;211&gt; 171

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 99

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&lt;210&gt; 100

&lt;211&gt; 269

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 100

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cagagagatac	gcaggtgcag	gtggccgcg				269

&lt;210&gt; 101

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 101

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 <211> 470  
 <212> DNA  
 <213> Homo sapien

<400> 102						
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aaattctagg	ggaatatata	cttcacacgg	gatcttaact	tttacttact	ttgtttattt	420
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<210> 103  
 <211> 581  
 <212> DNA  
 <213> Homo sapien

<400> 103						
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gcttctctag	cctcatttcc	tagctcttat	ctactattag	taagtggttt	ctttcctaaa	360
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<210> 104  
 <211> 578  
 <212> DNA  
 <213> Homo sapien

<400> 104						
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<210> 105  
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 <212> DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 105

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&lt;210&gt; 106

&lt;211&gt; 473

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 106

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&lt;210&gt; 107

&lt;211&gt; 1621

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 107

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a 1621

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&lt;210&gt; 108

&lt;211&gt; 382

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 108

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Arg Val Asp Arg Pro Gly Ser Arg Tyr Asp Val Ser Arg Leu Gly Arg
35 40 45
Gly Lys Arg Ser Leu Val Leu Asp Leu Lys Gln Pro Arg Gly Ala Ala
50 55 60
Val Leu Arg Arg Leu Cys Lys Arg Ser Asp Val Leu Leu Glu Pro Phe
65 70 75 80
Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu Gln
85 90 95
Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
100 105 110
Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
115 120 125
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130 135 140
Ala Pro Leu Asn Leu Leu Ala Asp Phe Ala Gly Gly Gly Leu Met Cys
145 150 155 160
Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Asp Lys
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Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
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Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Glu Ala Pro Arg
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Gly Gln Asn Met Leu Asp Gly Gly Ala Pro Phe Tyr Thr Thr Tyr Arg
210 215 220
Thr Ala Asp Gly Glu Phe Met Ala Val Gly Ala Ile Glu Pro Gln Phe
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Tyr Glu Leu Leu Ile Lys Gly Leu Gly Leu Lys Ser Asp Glu Leu Pro
245 250 255
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260 265 270
Asp Val Phe Ala Lys Lys Thr Lys Ala Glu Trp Cys Gln Ile Phe Asp
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Gly Thr Asp Ala Cys Val Thr Pro Val Leu Thr Phe Glu Glu Val Val
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 <211> 1524  
 <212> DNA  
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 cagggggaaa aaaaaaaaaa aaaa 1524

<210> 110  
 <211> 3410  
 <212> DNA  
 <213> Homo sapien

<400> 110  
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 gggggtagag gggaggttca tgacratggt gctgggcatt ggtccagtc tgggcttgg 480

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&lt;210&gt; 111.

&lt;211&gt; 1289

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 111

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gaatggaccc	gcctttctct	ctccagactt	ggggctagat	agggaccact	ccttttggcg	960
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						1269

&lt;210&gt; 112

&lt;211&gt; 315

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 112

Met	Val	Phe	Thr	Val	Arg	Leu	Leu	His	Ile	Pro	Thr	Val	Asn	Lys	Gln
1				5					10					15	
Leu	Gly	Pro	Lys	Ile	Val	Ile	Val	Ser	Lys	Met	Met	Lys	Asp	Val	Phe
			20					25					30		
Phe	Phe	Leu	Phe	Phe	Leu	Gly	Val	Tyr	Leu	Val	Ala	Tyr	Gly	Val	Ala
		35				40					45				
Thr	Glu	Gly	Leu	Leu	Arg	Pro	Arg	Asp	Ser	Asp	Phe	Pro	Ser	Ile	Leu
	50				55					60					
Arg	Arg	Val	Phe	Tyr	Arg	Pro	Tyr	Leu	Gln	Ile	Phe	Gly	Gln	Ile	Pro
65					70				75					80	
Gln	Glu	Asp	Met	Asp	Val	Ala	Leu	Met	Glu	His	Ser	Asn	Cys	Ser	Ser
			85					90					95		
Glu	Pro	Gly	Phe	Tyr	Ala	His	Pro	Pro	Gly	Ala	Gln	Ala	Gly	Thr	Cys
			100					105					110		
Val	Ser	Gln	Tyr	Ala	Asn	Tyr	Leu	Val	Val	Leu	Leu	Leu	Val	Ile	Phe
	115					120						125			
Leu	Leu	Val	Ala	Asn	Ile	Leu	Leu	Val	Asn	Leu	Leu	Ile	Ala	Met	Phe
	130					135					140				
Ser	Tyr	Thr	Phe	Gly	Lys	Val	Gln	Gly	Asn	Ser	Asp	Leu	Tyr	Trp	Lys
145					150				155					160	
Ala	Gln	Arg	Tyr	Arg	Leu	Ile	Arg	Glu	Phe	His	Ser	Arg	Pro	Ala	Leu
			165					170					175		
Ala	Pro	Pro	Phe	Ile	Val	Ile	Ser	His	Leu	Arg	Leu	Leu	Leu	Arg	Gln
		180					185					190			
Leu	Cys	Arg	Arg	Pro	Arg	Ser	Pro	Gln	Pro	Ser	Ser	Pro	Ala	Leu	Gln

	195		200		205
His	Phe Arg Val Tyr Leu	Ser Lys Glu Ala Glu	Arg Lys Leu Leu Thr		
	210	215	220		
Trp	Glu Ser Val His Lys	Glu Asn Phe Leu Leu	Ala Arg Ala Arg Asp		
	225	230	235	240	
Lys	Arg Glu Ser Asp Ser	Glu Arg Leu Lys Arg	Thr Ser Gln Lys Val		
	245	250	255		
Asp	Leu Ala Leu Lys Gln	Leu Gly His Ile Arg	Glu Tyr Glu Gln Arg		
	260	265	270		
Leu	Lys Val Leu Glu Arg	Glu Val Gln Gln Cys	Ser Arg Val Leu Gly		
	275	280	285		
Trp	Val Ala Glu Ala Leu	Ser Arg Ser Ala Leu	Leu Pro Pro Gly Gly		
	290	295	300		
Pro	Pro Pro Pro Asp	Leu Pro Gly Ser Lys	Asp		
	305	310	315		

<210> 113

<211> 553

<212> PRT

<213> Homo sapien

<400> 113

Met	Val Gln Arg	Leu Trp Val	Ser Arg Leu	Leu Arg His	Arg Lys Ala
1	5	10	15		
Gln	Leu Leu Leu	Val Asn Leu	Leu Thr Phe	Gly Leu Glu	Val Cys Leu
	20	25	30		
Ala	Ala Gly Ile	Thr Tyr Val	Pro Pro Leu	Leu Leu Glu	Val Gly Val
	35	40	45		
Glu	Glu Lys Phe	Met Thr Met	Val Leu Gly	Ile Gly Pro	Val Leu Gly
	50	55	60		
Leu	Val Cys Val	Pro Leu Leu	Gly Ser Ala	Ser Asp His	Trp Arg Gly
	65	70	75	80	
Arg	Tyr Gly Arg	Arg Arg Pro	Phe Ile Trp	Ala Leu Ser	Leu Gly Ile
	85	90	95		
Leu	Leu Ser Leu	Phe Leu Ile	Pro Arg Ala	Gly Trp Leu	Ala Gly Leu
	100	105	110		
Leu	Cys Pro Asp	Pro Arg Pro	Leu Glu Leu	Ala Leu Leu	Ile Leu Gly
	115	120	125		
Val	Gly Leu Leu	Asp Phe Cys	Gly Gln Val	Cys Phe Thr	Pro Leu Glu
	130	135	140		
Ala	Leu Leu Ser	Asp Leu Phe	Arg Asp Pro	Asp His Cys	Arg Gln Ala
	145	150	155	160	
Tyr	Ser Val Tyr	Ala Phe Met	Ile Ser Leu	Gly Gly Cys	Leu Gly Tyr
	165	170	175		
Leu	Leu Pro Ala	Ile Asp Trp	Asp Thr Ser	Ala Leu Ala	Pro Tyr Leu
	180	185	190		
Gly	Thr Gln Glu	Glu Cys Leu	Phe Gly Leu	Leu Thr Leu	Ile Phe Leu
	195	200	205		
Thr	Cys Val Ala	Ala Thr Leu	Leu Val Ala	Glu Glu Ala	Ala Leu Gly
	210	215	220		
Pro	Thr Glu Pro	Ala Glu Gly	Leu Ser Ala	Pro Ser Leu	Ser Pro His
	225	230	235	240	
Cys	Cys Pro Cys	Arg Ala Arg	Leu Ala Phe	Arg Asn Leu	Gly Ala Leu
	245	250	255		
Leu	Pro Arg Leu	His Gln Leu	Cys Cys Arg	Met Pro Arg	Thr Leu Arg

260 265 270  
 Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe  
 275 280 285  
 Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val  
 290 295 300  
 Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly  
 305 310 315 320  
 Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu  
 325 330 335  
 Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg  
 340 345 350  
 Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala  
 355 360 365  
 Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu  
 370 375 380  
 Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala  
 385 390 395 400  
 Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly  
 405 410 415  
 Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu  
 420 425 430  
 Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala  
 435 440 445  
 Gly Gly Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser  
 450 455 460  
 Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala  
 465 470 475 480  
 Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp  
 485 490 495  
 Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser  
 500 505 510  
 Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala  
 515 520 525  
 Gly Leu Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp  
 530 535 540  
 Lys Ser Asp Leu Ala Lys Tyr Ser Ala  
 545 550

<210> 114  
 <211> 241  
 <212> PRT  
 <213> Homo sapien

<400> 114  
 Met Gln Cys Phe Ser Phe Ile Lys Thr Met Met Ile Leu Phe Asn Leu  
 1 5 10 15  
 Leu Ile Phe Leu Cys Gly Ala Ala Leu Leu Ala Val Gly Ile Trp Val  
 20 25 30  
 Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser  
 35 40 45  
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly  
 50 55 60  
 Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr  
 65 70 75 80  
 Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile

				85					90				95
Phe	Ile	Ala	Glu	Val	Ala	Ala	Ala	Val	Val	Ala	Leu	Val	Tyr
				100					105				110
Met	Ala	Glu	His	Phe	Leu	Thr	Leu	Leu	Val	Val	Pro	Ala	Ile
				115					120				125
Asp	Tyr	Gly	Ser	Gln	Glu	Asp	Phe	Thr	Gln	Val	Trp	Asn	Thr
				130					135				140
Lys	Gly	Leu	Lys	Cys	Cys	Gly	Phe	Thr	Asn	Tyr	Thr	Asp	Phe
				145					150				155
Ser	Pro	Tyr	Phe	Lys	Glu	Asn	Ser	Ala	Phe	Pro	Pro	Phe	Cys
				165					170				175
Asp	Asn	Val	Thr	Asn	Thr	Ala	Asn	Glu	Thr	Cys	Thr	Lys	Gln
				180					185				190
His	Asp	Gln	Lys	Val	Glu	Gly	Cys	Phe	Asn	Gln	Leu	Leu	Tyr
				195					200				205
Arg	Thr	Asn	Ala	Val	Thr	Val	Gly	Gly	Val	Ala	Ala	Gly	Ile
				210					215				220
Leu	Glu	Leu	Ala	Ala	Met	Ile	Val	Ser	Met	Tyr	Leu	Tyr	Cys
				225					230				235
Gln													240

&lt;210&gt; 115

&lt;211&gt; 366

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 115

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ttgggtttgtg	aatccatctt	gctttttccc	catttgaact	agtcattaac	ccatctctga	180
actggtagaa	aaacatctga	agagctagtc	tahcagcctc	tgacaggtga	attggatggc	240
tctcagaacc	atttcaccca	gacagcctgt	ttctatcttg	tttaactaat	tagtttgggt	300
tctctacatg	cataacaaac	cctgcttcaa	tctgtcccat	aaaagtctgt	gacttgaagt	360
ttagtc						366

&lt;210&gt; 116

&lt;211&gt; 282

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (282)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 116

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gaagaattgag	atnaaacaca	atnttataga	gtctacttag	agaagatcaa	gtgacutcaa	120
agactttact	attttcatat	tttaagacac	atgatttttc	ctatttttagt	aacctgggtc	180
ataugttana	caaaggataa	tgtgaacagc	agagaggatt	tgttggcaga	aaatctatgt	240
tcaatctnga	acLatctana	tcacagacat	ttctattccct	tt		282

&lt;210&gt; 117

&lt;211&gt; 305

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (305)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 117

acacatgtcg	cttcaactgcn	tcttttagatg	cttctgggtca	acatanagga	acagggacca	60
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aataaggosa	antatatgaa	acacacaggtc	tcgagatatt	ggaaatcagt	caatgaagga	180
tactgatccc	tgatcactgt	cctaattgcag	gattgtggaa	acagatgagg	tcacctctgt	240
gactgcccc	gcttactgcn	tgtatagagt	tctatngctg	cagttcagac	aggagagaat	300
tgsgt						305

&lt;210&gt; 118

&lt;211&gt; 71

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (71)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 118

accaaggtgt	ntgaatctct	gacgtgggga	tctctgattc	cgcacaaatc	tgagtggaaa	60
aantctggg	t					71

&lt;210&gt; 119

&lt;211&gt; 212

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (212)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 119

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gaaaatgggg	tgaaattggc	caacttctca	tnaacttatg	ttygcaantt	tgcacacaa	120
agtaagctgg	cccttctaat	aaagaaaaat	tgaaggtttt	cttactaenc	ggaaattaant	180
aatggantca	aganactccc	aggcctcagc	gt			212

&lt;210&gt; 120

&lt;211&gt; 90

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (90)

&lt;223&gt; n = A,T,C or G



&lt;400&gt; 120

actcgtttgca natcaggggg cccccagagt caccgtt.gca ggagtccttc tggctttgca 60  
ctcgcgcggc gcagaaatg ctgggggtgt 90

&lt;210&gt; 121

&lt;211&gt; 218

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}... (218)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 121

tgtancgtga anacgacaga nagggttgtc aaaaatggag aanccttgaa gtcattttga 60  
gaataagatt tgcctaaaga ttgggggcta aaacatgggt attgggagac attcttgaag 120  
atatncanct aaattangga atgaattcat ggtctctttg ggaattcctt taagatngcc 180  
agcatanact tcatgtgggg atancagcta cccttcta 218

&lt;210&gt; 122

&lt;211&gt; 171

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 122

tagggtgtga tycactgtga aggacaaaba ttgagactca acttgottaa ccaataaagg 60  
catttggttag ctcatggaa cggaaagtcgg atggt.gggc atcttcagla ctgcatgagt 120  
caccaccccg ggggggtcat ctgtgccaca ggtccctgtt gacagtgcgg t 171

&lt;210&gt; 123

&lt;211&gt; 76

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}... (76)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 123

ctatagcgtga agacnacaga atggtgtgtg ctgtgctatc caggaaacaa ttattatca 60  
ttatcaanta ttgtgt 76

&lt;210&gt; 124

&lt;211&gt; 131

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 124

acatttcccc aaggccaatg tctgtgtgtc taactgccc gctgcaggac agctgcaatt 60  
caatgtgtgt ggtcatatgg aggggaggag actctaaaat agccaatttt attctcttgg 120  
ttaagatttg t 131

<210> 125  
 <211> 432  
 <212> DNA  
 <213> Homo sapien

<400> 125  
 accttatctc ctggctatga aatgagatggt ggaaaattgc gttaccaact ataccactgg 60  
 ctctgaaaag aggtgatagc ttttcagagg acctgtgact tttgctcaga tgrtgaagaa 120  
 ctacagctctg cttttggcag aatgagat gaatttggat tcaatgagga tgctgaagat 180  
 ttgctcacc aacaaagt gaaacaactg agagaazatt ttcaggagaa aagacagtgg 240  
 ctcttgaggt atcagtcaat tttgagagatg tttcttagtt actgcatact tcatggatcc 300  
 catgggtggg gtcttgcatc tgtaagaatg gaattgattt tgccttttga agaattctcag 360  
 caggaaacat cagaaccact atttctatagc cctctgtcag agcaaacctc agtgcctctc 420  
 ctctttgtct gc 432

<210> 126  
 <211> 112  
 <212> DNA  
 <213> Homo sapien

<400> 126  
 acacaacttg aatagtaaaa tggaaactga gctgaaattt ctaattcact ttctaaccat 60  
 agtaagaatg ttatttcccc ccagggatca ccaaatattt ataaattt gt 112

<210> 127  
 <211> 54  
 <212> DNA  
 <213> Homo sapien

<400> 127  
 accacgaac cacaacaag atggagcat caatccactt gccaaagaca gcag 54

<210> 128  
 <211> 323  
 <212> DNA  
 <213> Homo sapien

<400> 128  
 accctcattag taattgtttt gttgtttcat tttttctbaa tgtctccctt ctaccagctc 60  
 acctgagaca acagaaatgaa aatggaagga cagccagatt tctcttttgc tctctgctca 120  
 ttctctctga agtctagggt acccattttg gggacccatt ataggcaata aacacagttc 180  
 ccaagacatt tggacagttt cttgttgat tttagaatgg tttccctttt tcttagcctt 240  
 ttctgcaca aggcctcact agtcccttgc ttgctcagtg gactgggctc ccaaggcctt 300  
 aggcctgcct cttttcatg tcc 323

<210> 129  
 <211> 192  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> {1}...{192}  
 <223> U = A,T,C or G

```

<400> 129
acatacctgt gtgtatattt ttaaataatca utttgtatc actctgactt tttagcatac      60
tgaaaacaca cttaacataat ttntgtgaac catgatcaga tacaacccaa atcattcatt      120
tagcacattc atctgtgata naagatagg tgaatttcac ttccttcaay ttggccaatg      180
gtataacaaa gt                                     192

```

```

<210> 130
<211> 362
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(362)
<223> n = A,T,C or G

```

```

<400> 130
ccctttttta tggatgagt agactgtatg tttgaanatt tancacacac ctctttgaca      60
tataatgaag caacaaaaag gtgtgtgtta gtctataggt taagtttatg cccctgacaa      120
gtttcatttg tgttttgccg atctctgggc taatcgttgt atctccatg ttattagtta      180
tttgtattc cattttgcta acgctgtgta gatgtaacct gctangaggc taactttata      240
cttattttaa agctcttatt ttgtggtcat taaaatggca atttatgtgc agcactttat      300
tgacagcagg agcactgtgt ggttggattgt aaagctcttt gctaacttta aaaagttaatg      360
gg

```

```

<210> 131
<211> 332
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(332)
<223> n = A,T,C or G

```

```

<400> 131
ctttttgaaa gatcgtgttc actcctgtgg acatcttgtt ttaatggagt ttcccatgca      60
gtangacttg tatggttgca gctgtcaga taaaaacatt tgaagagctc caaatgaga      120
gtttccrag gttcgcctg ctgctccaag tctcagagc agcctctttt agyaggcatc      180
tctgaaata gattaaggca gcttgtaaat ctgatgtgat ttggtttatt atcraactaa      240
cttccatctg ttatcactgg agaaagccca gactcccan gacnggtacg gattgtgggc      300
atanaaggat tgggtgaagc tggcgttgtg gt                                     332

```

```

<210> 132
<211> 322
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(322)
<223> n = A,T,C or G

```

```

<400> 132
acttttgcca ttttgtatat ataaacatc ttggagacatt ctctgaaaa ctgggtgtcc      60

```

```

agtggctaag agaactcagat ttcaagcaat tctgaaagga aaaccagcat gacacagaat.   120
ctcaaatctcc caaacagggg ctctgtggga acaatgaggg aggaaccttg tatctcgggt   180
tttagcaggt taaatgaen atgacaggaa aggcctcttt atcaacaaag aggaagattg   240
ggatgcttct aaaaaaact ttggtagaga aataggaat gctnaatct agggaaggct   300
gtacacatct acaattggtc ca

```

&lt;210&gt; 133

&lt;211&gt; 278

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(278)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 133

```

acaagccttc acaggtttta ctcaattggg attaatcttt ctgtanttat ctgcataatt   60
cttgtttttt tttcatcttg gctcctgggt tgacaatttg tggaaacaa tctattgcta   120
ctatttaaaa acaatucaa atctttccct ttaagctatg ttaaatcaa actattcctg   180
ctatttctgt ttgtcaaaag aatctatatt ttcaaaata tgtntatttg ttgatgggt   240
cccacgaaac actaataaa accacagaga ccagcctg

```

&lt;210&gt; 134

&lt;211&gt; 121

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(121)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 134

```

gttttaaaaa ctgttttagc tccatagagg aaagaatgtt aaactctgta ttttaaaana   60
tgatctcttg aggttaaaact tggtttctaa atgttatctt lacttgtaac ttgcttttgg   120
t

```

&lt;210&gt; 135

&lt;211&gt; 350

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(350)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 135

```

acttanaacc atgectagca catcagaatc cctcaaagaa catcagttata atcclatccc   60
atancaagtg gtgactgggt aagcgtgcga caaaggtag ctggcacatt acttggtgcn   120
aaacttgata cttttgttct aagtaggaac tagtatacag tnoctaggan tgglaactcca   180
gggtgccccr caactcctgc agccgtctct ctgtgccagn cctgnaagg aactttcgct   240
ccacctcaat caagccctgg ggcctgtatc ctgcaattgg ctgaacaaac gtllgctgag   300
ttcccaagga tgc000gct ggtgctcaan tcc0ggggcg tcaactcagt   350

```

<210> 136  
 <211> 399  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (399)  
 <223> n = A,T,C or G

<400> 136  
 tgtaccgtga agnccgacaga agttcccatgg cagggacagg gacggggccga ggccagggtt 60  
 gctgtgattg tatccgaata ntccctcgtga gaaaagataa tgagatgacg tgagcagcct 120  
 gcagacttct gtctgccttc aanaaggccag acaggaaggc cctgcctgcc ttggctctga 180  
 cctggcggcc agccagccag ccacagggtg gcttcttctt tttgtggtga caacnccaag 240  
 aaaactgcag agggccaggg tcaggcgtta gtgggtangl gacctaataa caccagggtg 300  
 tccaggaac ccgggcaaa gccaatccca cctccagcca gcctgcccac tggcgtgatg 360  
 ggtgcagang gatgaagcag ccagntgctc tctgtgtgt 399

<210> 137  
 <211> 165  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (165)  
 <223> n = A,T,C or G

<400> 137  
 actggtgtgg tnggggggtga tgctgggtgg anaggttgan gtgacttcan gatgggtgtat 60  
 ggaaggagtg tgtgaacga gggatgtaga ngttttggcc gtgctaaatg agcttoggga 120  
 ttggctgggt ccactggttg tcaactgtcat tggtygggtt cctgt. 165

<210> 138  
 <211> 338  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (338)  
 <223> n = A,T,C or G

<400> 138  
 actcaactgga atgcccacatt cacaacagaa tcagagggtct ghgaaaacat taatggctcc 60  
 ttaacttctc cagtaagaat cagggacttg aatgggaac gtaaacagcc acatgcccaa 120  
 tgctggggcag tctcccatgc cttccacagt gaaagggctt gagaaaaatc acatccaatg 180  
 tcatgtgttt ccagccacac caaaagggtg ttggggtyga gggctggggg catananggt 240  
 cagccctcag gaagcctcaa gttccattca gctttgccac tgtacattcc ccatntttaa 300  
 aaaaactgat gacctttttt tttttttttg taataatc 338

<210> 139  
 <211> 382

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 133

gggaatcttg	gtttttggca	tctggtttgc	ctctagccga	ggcactcttg	acagaacaaa	60
gaaggggact	tccagtaaga	aggcgattta	cagccagcc	agtgcacgaa	gtggaaggga	120
attcacaacg	acctcgatcat	tcttggtgfg	agccctggtcg	gtcacaacgc	tatcatctgc	180
atttgcccta	ctcaggtgct	accggactct	ggccctgat	gtctgtagtt	tcaagggtg	240
ccttatctgc	ctctacacac	ccacaggggc	ccctaatttc	tgggatgct	ttttaataat	300
gtcagctatg	tgcacacac	tcttctatgc	ctcctctcc	tttccctacca	ctgctgagtg	360
gcctgggaact	tgtttaaagt	gt				382

&lt;210&gt; 140

&lt;211&gt; 200

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (200)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 140

accaaactt	ctttctgttg	tgttngatlc	tactataggg	gtcttngcttn	ttctaaanat	60
acttttcatt	taccancttt	tgttaagtgt	caggctgcac	tttgcctccat	anaattattg	120
ctttcacac	tcaacttgta	tgtgtttgtc	tcttanagca	ttgggtgaat	cacatatttt	180
atattcagca	taaaggagaa					200

&lt;210&gt; 141

&lt;211&gt; 335

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (335)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 141

actttatctt	cacacactc	atattgttgc	aaaaacacat	agaaaaataa	agtttcggtgg	60
gggtgctgac	tcaacttcaa	gtcacagact	tttatgtgac	agattggagc	agggtttgtt	120
atgcatgtag	agaccccaa	ctaatttatt	aaacaggata	gaaacaggct	gtctgggtga	180
aattggttctg	agacccatc	aattcacctg	tcagatgctg	atanactagc	cttcagatg	240
ttttctacc	agttcagaga	tnggttaatg	actantcca	atgggggaaa	agcaagatgg	300
attcaccaac	caagtattt	caaaccaaga	cactt			335

&lt;210&gt; 142

&lt;211&gt; 459

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (459)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 142

accagggttaa	lattgconon	tatatccttt	cnaattgggg	gctaaacaga	cggtgtattt	60
gggttgttta	aagacaaccc	agcttaatat	caagagaaat	tgtgaccttt	catggagtat	120
ctgatggaga	aaacactgag	ttttgacaaa	tcttatttta	ttcagatagg	agtctgatca	180
caatgtgtcc	aacaacactc	aaacactaaa	tcaaatatna	tcagatgta	aagattgggc	240
ttcaaacatc	atagccaatg	atgcccgcct	tgcctataat	ctctccgaca	taaaaccaca	300
tcaacacctc	agtggccacc	aaacattcca	gcacagcttc	cttaactgtg	agctgtttga	360
agctaccnag	ctgagcacta	ttgactatnt	ttttcangct	ctgaatagct	ctagggatcl	420
cagcangggc	gggaggaacc	agctcaacct	tggcgtant			459

&lt;210&gt; 143

&lt;211&gt; 140

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 143

acatttcctt	ccaccaagtc	aggactctctg	gcttctgtgg	gggttccttat	cacctgaggg	60
aatccaaac	agtctctctt	agaaaggaat	agtgtcacc	acccacacca	cttccctgag	120
accatccgac	ttccctgtgt					140

&lt;210&gt; 144

&lt;211&gt; 164

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (164)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 144

acttcagtaa	caacatacaa	taacaacatt	aaagtgtatat	tgccatcttt	gtcattttct	60
atctatacca	ctctcccttc	tgaatacaan	aatcactanc	caatcactta	tacaaatttg	120
aggcaattta	tccatatttg	tttcaatca	ggaaaaaang	atgt		164

&lt;210&gt; 145

&lt;211&gt; 303

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (303)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 145

acgtaggacc	ttcaactttg	tatttqtaat	ggcaaacatc	cagagagaaat	tcttaaacaa	60
actggagggt	attttatccc	aattatccca	ttcatttaaa	tgcctccctc	ctcaggctat	120
gcaggacagc	tatcataagt	gggcccaggc	atccagatcc	ttccatttgt	ataaacctta	180
gtagggggagt	ccatccaaagt	gacaggtcta	atcaaggagag	gaaatgggac	ataagcccag	240
tagtaaaatn	ttgcttaagct	gaaacagcca	caaaagactt	acgcgcgtgg	tgattaccat	300
cba						303

&lt;210&gt; 146

<211> 327  
 <212> DNA  
 <213> Homo sapien  
  
 <220>  
 <221> misc\_feature  
 <222> (1)...(327)  
 <223> n = A,T,C or G

<400> 146  
 actgcagctc aattagaagt ggtctctgac ttctatcanc ttctccctgg gttccatgac 60  
 actggcctgg agtgactcat tgcctctggt ggttgagaga gtccctttgc caacaggcct 120  
 ccaagtcagg gctgggattt gtttcttttc cactttctag caacaatatg ctggccactt 180  
 cctgaacagg gagggtagga ggagccagca tggacaagc tgcactttt taaagttagc 240  
 agacttgccc ctgggcccgt cacacctact gatgaacttc tgtgcctgca ggatgggact 300  
 tgggggtgag ctgtgtgact ctatggt 327

<210> 147  
 <211> 173  
 <212> DNA  
 <213> Homo sapien  
  
 <220>  
 <221> misc\_feature  
 <222> (1)...(173)  
 <223> n = A,T,C or G

<400> 147  
 acattgtttt tttagatga agcattgana gagctctcct taaagtgaca caatgggagg 60  
 actgggacac ataccacat ctttgttctg agggataatt ttctgataaa gtcttgctgt 120  
 atattcaagc acatatgta tatattatc agttccatgt ttatagccta gtt 173

<210> 148  
 <211> 477  
 <212> DNA  
 <213> Homo sapien  
  
 <220>  
 <221> misc\_feature  
 <222> (1)...(477)  
 <223> n = A,T,C or G

<400> 148  
 acaaccactt tatchcatcg aatttttaac ccaaacctac tcaactgtgc ttctatcct 60  
 atgggatat tttttgatg ctccctttca tcaracatat atgaataata cactcact 120  
 gccctactac ctgctgcact aatcacattc ctttctgtc ctgacctgga agcattggg 180  
 gtggtctatg tggccatcag tccnngcctg cacttgagc ccttgagctc ctttgcctac 240  
 nccanccac ctcaaccgac ccatcctctt acacagctac ctcttgctc tctaaaccca 300  
 tagattatnt ccaatttcag tcaattaagt tcttttaac actctacuy acatgtcag 360  
 caccactggt aagctttct cagccaacac acacacacac acacacacac acacacacat 420  
 ccaggcacag gctacctcat ctccacaatc acccttttaa taccatgct atgggtgg 477

<210> 149  
 <211> 207  
 <212> DNA



<213> Homo sapien

<400> 149

```
acagttgtat cataatctca agaatataar ttgcantgag agcatttcaag agggagaagac      60
taacgtatatt tagagagcca aggaaggttt ctgtggggag tgggatgtaa ggtggggcct      120
gatgataaat aagagtcagc caggttaagt ggtggtgtgg tatgggcaca gtgaagaaca      180
tttcaggcag agggacacag agtgaan                                           207
```

<210> 150

<211> 111

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> {1} ... {111}

<223> n = A,T,C or G

<400> 150

```
accttgattt cattgctgct ctgatggaaa ccccaactatc taatttagct aaacatggg      60
cacttaasly tggctagtgt ttggacttct taactantgg catuttctgg t                                           111
```

<210> 151

<211> 196

<212> DNA

<213> Homo sapien

<400> 151

```
agcgcgagcag gtcctattga acattccaga taactatcat tactcgatgc tgttgataac      60
agcaagatgg ctctgaactc agggctcaca ccagctattg gaccttacta tgaaaccat      120
ggatcccaac cggaaaacc ctatcccgca cagcccacty tggcccccac tttctacgag      180
gtgcatccgg ctcaagt                                           196
```

<210> 152

<211> 132

<212> DNA

<213> Homo sapien

<400> 152

```
acagcatttt cacatgtaag aaggagagaa ttccataatg taggagaaag ataacagAAC      60
cttccctttt tcatctagt gtagaaccct gatgctttat gttgacagga atagaaccag      120
gaggagattt gt                                           132
```

<210> 153

<211> 285

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> {1} ... {285}

<223> n = A,T,C or G

<400> 153

```
acaaatcccc nganaggcca ctgacgtgg tgtcatggcc tccaaacatg aaggtgtcag      60
```

cttctgctct catgtctca tctgcaatct ctttaccatt. ttatctctcg ctcaagcagga	120
gcacatcaat aaagtccaaa gtcttggact tggccttggc ttggaggagc tcatcaaac	180
cttggctagt gagggtgagg cgcggctcct ggatgacggc atctgtgaag tctgcaaca	240
gtctgcaggc cctgtggaag cgccgtccac aaggagtnag gaatt.	285

<210> 154  
 <211> 333  
 <212> DNA  
 <213> Homo sapien

<400> 154	
accacagtcn tggggggcca gggcttcctg acccttctctg tgaaaagcca tattatcacc	60
accccaaat tttctttaa catctttaac tgaaggggtc agcctcttga ctgcacagac	120
cctaagcagg ttacacagct aactccact ggccttgatt tgtgaaattg ctgtgcctg	180
attggacag gactcgaagg tgttcagctc cctctctcgg tggaaacaga ctctgattg	240
agttcacaa attctgggc cactctgtra tggctcctct gaaataaaa cgggagaatg	300
gtcaggcctg tctatcat atggatcttc cgg	333

<210> 155  
 <211> 308  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> 11)... (308)  
 <223> n = A,T,C or G

<400> 155	
actgggagca ataaaccca catcacagtg tctgttcaa gatcatcagg gcatggatgg	60
gaaagtgtt tgggaactgt aaagtgccta acacatgat gatgttttt gtataatat	120
ttgaatcagg gtgcataca actctctctg ctgtctctcc tgggccccag cccagcccc	180
atcacagctc actgtctgt tcatcaggc ccagcatgta gtggtgatt ctctcttggc	240
gcttttagcc tccanaagtc tctctgaagc caacccaaac tctangtga aggcattgtg	300
gcccctgg	308

<210> 156  
 <211> 295  
 <212> DNA  
 <213> Homo sapien

<400> 156	
accttgctcg gtgcttggaa catattagga atcaaaaata cgagatgata acagtgccta	60
ctattgatta ctgagagaac tgttagacat ttagttagag atttcttaca caggaaactga	120
gaataggaga ttatgtttgg cctcataat ctctctatc ctcttgcct cattctatgt	180
ctaatatatt ctcaatcaa taagggttagc ataactaggc atctgaccaa ataccaatat	240
aaaaccagat gtctatctct aagattttca atagaaaac aaattaaag actat	295

<210> 157  
 <211> 126  
 <212> DNA  
 <213> Homo sapien

<400> 157	
acaaagttta atagtgtgt. cactgtgcat gtgctgaat gtgaaatcca ccacattct	60

gaagagcaaa acaaatcttg tcatgtatcc tatatcttgg gtctgtggga tatctgtccc 120  
cttagt 126

<210> 158  
<211> 442  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> {1}... (442)  
<223> n = A,T,C or G

<400> 158  
accactgggt cttggaaaca cccatcctta atacgatgat ttttctgtcg tctgaaatcg 60  
aancragcag gctgtcccta gtcagtcctt ccttcragag aaaaagagat ttgagaaagt 120  
gactgggtaa ttccaccatta atttcctccc ccaactctc tgggtcttcc cttactattc 180  
ctgggtgggttc tgaacaaagc aggtcatggg tctgtgagaa cttgggatcc cagtgaagta 240  
natgtttgta gacttgcata cttagccctt cccacgcaca aacggagtg cagagtcgtg 300  
craacctgt tttccagtc cacttagaca gattcacagt gcggaattct ggaagctgga 360  
nacagacggg ctctttgcag agcggggact ctgagangga catgagggcc tctgcctctg 420  
tgttcattct ctgatgtccc gt 442

<210> 159  
<211> 498  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> {1}... (498)  
<223> n = A,T,C or G

<400> 159  
acttcacagg aacggtgttg tttccgttga gactgaactg atgggtgacg ttgtaggttc 60  
tccacaaaga atgaggttg cagagcgggt agggaaagag gctgttccag ttgcaactgg 120  
gctgctgtgg actgtgttg attcctcact acggcccaag gttgtggaac tggcannaa 180  
gtgtgtgttc gganttgagc tggggcggct gtggtaggtt gtgggctctt caacaggggc 240  
tgctgtgggt cggggangtg aanytggtgt gtracttgag cttggccagc tctggaaggt 300  
antanattct tctgaaggg cagcgttgtt ggagctggca ngggtcanty ttgtgtgtaa 360  
cgaaccagtg ctgctgtggg tgggtgtana tctccacaa agcctgaagt tatgtgtcn 420  
tcaggtaana atgtggtttc agtgcctctg ggcnctgtg gaaggttcta nattgtcacc 480  
aagggaataa gclgtggg 498

<210> 160  
<211> 380  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> {1}... (380)  
<223> n = A,T,C or G

<400> 160

```

accctgcacac agcttccctg ccaactuuu aaggagacat caacctctag acagggaaac      60
agcttcagga tacttccagg agacagagcc accagcagca aacaaatat tccuatgct      120
ggagcatggc atagaggaag ctganaaatg tggggtctga ggaagccatt tgagtctggc      180
cactagacat ctcatnagc acttctgtga agagatgccu catgacccca gatgccttc      240
ccacaccttc ctccatctca cacacttgaq utttccactc tgtataatc taacatccg      300
gagaaaatg gtagtttgac ggaacctgtt cacaacggtg gaggctgatt tctaacgaaa      360
cttgtagaal gaagcctgga                                380

```

<210> 161  
 <211> 110  
 <212> DNA  
 <213> Homo sapien

```

<400> 161
actccacatc cctctgagc aggcggctgt cgttcaaggc gtatttgcc ttgccgtca      60
cactgtccac tggcccttc tccatttgt gcttaatccc tcgaaagagc atgt      114

```

<210> 162  
 <211> 177  
 <212> DNA  
 <213> Homo sapien

```

<400> 162
acbtctcaga tcgaatcaa tgetacttag tgtagtcttc atatcctcat atatatcaa      60
gttttactac tctgatcat ttgtaaacca ggtaaccaga acatccagtc atacagcttc      120
tggtagatca taacttggca ataaccagc ctggtgatcc ataaactac tcaactgt      177

```

<210> 163  
 <211> 137  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> {1}...{137}  
 <223> n = A,T,C or G

```

<400> 163
catctatada gacaggcgtg aagacattca cgacaaaac gcyaaattct atcccgtgac      60
canagaaggg agctacggct actcctacat cctggcgtgg gtggccttcg cctgcacct      120
catcagcggc atgatgt                                137

```

<210> 164  
 <211> 469  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> {1}...{469}  
 <223> n = A,T,C or G

```

<400> 164
cttatcaaa tgaattttct cctgggcagc gttgtgatct ttgccacctt cgtgaacttc      60
tgcaatgcat catgtattt cclacutant gagggagttc caggagattc aacagggaaa      120

```

tgcatggatc	tcacaggaa	caaacacccc	ataaactcgg	agtggcagac	tgacaactgl	180
gagacatgca	cttgctacga	aacagaaatt	tcattgttgc	cccttgtttc	tacacctgtg	240
ggttatgauc	aagacaactg	ccaaagaatc	ltcaggaggg	aggactgaaa	gtatatcgtg	300
gtggagaaga	aggaccnasa	aaagacctgt	tctgtcagtg	aattggataat	ctaactgtgt	360
tctagtgagg	adaggggtcc	caggccaggc	ctcattctcc	tctggcctct	aattagtcct	420
gattgtgtag	ccatgcttat	cagtaaaag	atntttgagc	aaacacttt		469

&lt;210&gt; 165

&lt;211&gt; 195

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{195}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 165

acagtttttt	atanatattg	acattgcagg	cacttctgtt	cagtctccta	aagctggtag	60
atccgtgtgc	atcactatt	acttggctag	agtaaaatt	attcttatag	cccatgtccc	120
tgcaggccgc	cggccgctag	ttctgtttcc	agtcgtcttg	gcacacaggg	tgccaggact	180
tctcttgaga	tgagt					195

&lt;210&gt; 166

&lt;211&gt; 383

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{383}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 166

acatctttgt	agtgtggcac	atcagggggc	cattcagggtc	acagtcactc	atagcctcgc	60
cgaggtcgga	gtccacacca	cgggtgtagg	tgtgctcaat	cttgggcttg	gggcccacct	120
ttggagaagg	gatatgctgc	acacacatgt	ccacaaagcc	tgtgaactcg	ccaaagaatt	180
tttgcagacc	agcctgaagc	aggggctggc	gttcagcttc	agctcctcct	tggtcagggtg	240
gatgcuaacc	togtctangg	tccgtgggaa	gctgggtgtc	acntcaacta	caacctgggc	300
gangatctta	taaagaggct	ccnagataaa	ctccacgaaa	cttctctggg	agctgctagt	360
ngggggccttc	ttggtgaact	ttc				383

&lt;210&gt; 167

&lt;211&gt; 247

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{247}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 167

acagagccag	accttgggca	tcaatgaanc	agagattcag	actaaacccc	aagtoganat	60
tggagcagaa	atgagagcaa	gaagtgggcu	tggggctgaa	glagagacca	aggcnactgc	120

tatandcatt	caccagagcc	actctcaggg	caaggcctatg	gttgggggcat	anccagagac	180
tcattctgaa	tccaaagtgg	tggctygaac	actgggtcatg	acanaaggcag	tgactctgac	240
tgangtc						247

&lt;210&gt; 168

&lt;211&gt; 273

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(273)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 168

acttcttaagt	tctctagaag	tggcaggatt	gtatccatcc	tgaatctggg	tctacttcaa	60
aatccctcan	ccttggtctt	cactactgtc	tatcttgana	gtgtcatgtt	tccacaaagg	120
gctgaacoot	gagcctgnat	tctcactcat	ccttgagaag	ccttttccag	taggggtggc	180
aattcccaac	tctcttgcca	caagcttccc	aggttctctc	ccttggaagg	ctccagcttg	240
agtcacagat	aaactcatgg	gttgccctgg	gca			273

&lt;210&gt; 169

&lt;211&gt; 431

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(431)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 169

acagccttgg	cttcccccna	ctccacagtc	tcagtgcaga	aagatcatct	tccagcagtc	60
agctcagacc	agggtcnaag	gatgtgacat	caacagtttc	tgytttcaga	acaggttcta	120
ctactgtcaa	ctgacccccc	atacttcttc	aaaggctgtg	gtaagtcttg	cacaggtgag	180
ggcagcagaa	aggggttant	tactyatgga	caccatcttc	tctgtatart	ccacactgac	240
cttgccatgg	gcacaggccc	ctaccacaaa	aaacatagga	tcactgctgg	gcaccagctc	300
acgcacatca	ctgacacacc	ggatygaaaa	agaantgcca	actttcatar	atcccaactgg	360
aaagtgatct	gatactggat	tcttaattac	cttcnaaagg	ttctgggggg	catcagctgc	420
tgyaacactg	a					431

&lt;210&gt; 170

&lt;211&gt; 266

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(266)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 170

aactgtgggc	caagctgtta	tgcctgtgcu	ggtgtgtgaa	agggcattca	gaggtggagc	60
tcaaggagct	ctgcaggcat	tttgcccaac	ctctccanag	canaggagac	aacctauact	120
ccccgctaga	aaacacaccg	attggagtc	tgggaggggg	agttggggtg	ggcatttgat	180

gtataattgt caactgaatg aangagccng agagggaanga gacgaaanatz anal.tygcct 210  
tcaaagctag ggggtctggca ggtgga 266

<210> 171

<211> 1248

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> {1}...{1248}

<223> n = A,T,C or G

<400> 171

```

ggcagccaaa tcataaacgg cgaggactgc agcccgact cguagccctg gcaggcggca      60
ctgggtcatgg aaaacgaatt gtctgtctcg ggcgtccctg tgcattccga gtgggtgctg      120
ttagccgcau actgtttcca gaagtgaagt cagagctctt acaccatcgg gctgghcctg      180
cacagtcttg aggcgcacca agagccaggg agccagatgg tggaggccag cctctccgta      240
cgccacccag aytacacacg acccttgctc gctacagacc tcatgtctat caagttggac      300
gaatecgtgt ccgagttctga caccatccgg agcatccgca ttgcttcgca gtgcctatcc      360
gcgggggaact ctctgctcgt ttctggctgg ggtctgctgg ngaaaggcag aatgcctacc      420
gtgttgcagt gcgtgaacgt gtccgtggtg tctgaggagg tctgcagtaa gctctatgac      480
ccgtctgtacc accccagcat gttctgcgcn ggccgagggg aagaccagaa ggactcctgc      540
aacattgaat ctgggggggc cctgatctgc aacgggtact tgcagggcct tgtgtctttc      600
ggaaaagccc cgtgtgacaa agttggcgtg ccagggtctc acaccaacct ctgcaaatcc      660
actgggtgga tagagaaaac cgtccaggcu agttaactc ggggactggg aacccatgaa      720
attgaccccc aaatcacatcc tgcgggaagg attcagggaat atctgttccc agccctcctc      780
cctcaggccc caggagtcca ggcgcccgag cctcctccc tcaaaccaag ggtacagatc      840
ccagccctc cctcctcag agcccgaggt ccagaccccc cagccctcc lccctcagac      900
ccaggagtcc agccctcct cctcagacc caggagtcca gaccccccag cccctcctcc      960
ctcagaccca ggggtccagg ccccccaccc ctctcctcc agactragag gtcgaagccc      1020
ccaaacctcc attcccccga cccagagggt cagggtccag cccctcctcc ctagaccca      1080
gcggtccaat gccacctaga ctntcctgt acacagtgc ccttctggc acgttgaccc      1140
aaccttacca gttggttttt catttttngt ccttttcccc tagatccaga aataaagttt      1200
aaggagagng caaaaaaaa aaaaaaaan aaaaaaaan aaaaaaaa      1248

```

<210> 172

<211> 159

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> {1}...{159}

<223> Xaa = Any Amino Acid

<400> 172

```

Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro
 1             5             10             15
Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser
                20                25                30
Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr
                35                40                45
Ala Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly
 50                        55                        60

```

Arg	Met	Pro	Thr	Val	Leu	Gln	Cys	Val	Asn	Val	Ser	Val	Val	Ser	Glu
65					70				75						80
Glu	Val	Cys	Ser	Lys	Leu	Tyr	Asp	Pro	Leu	Tyr	His	Pro	Ser	Met	Phe
				85				90						95	
Cys	Ala	Gly	Gly	Gly	Gln	Xaa	Gln	Xaa	Asp	Ser	Cys	Asn	Gly	Asp	Ser
			100				105						110		
Gly	Gly	Pro	Leu	Ile	Cys	Asn	Gly	Tyr	Leu	Gln	Gly	Leu	Val	Ser	Phe
		115				120						125			
Gly	Lys	Ala	Pro	Cys	Gly	Gln	Val	Gly	Val	Pro	Gly	Val	Tyr	Thr	Asn
	130					135					140				
Leu	Cys	Lys	Phe	Thr	Glu	Trp	Ile	Glu	Lys	Thr	Val	Gln	Ala	Ser	
145					150					155					

&lt;210&gt; 173

&lt;211&gt; 1265

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...[1265]

&lt;223&gt; n - A,T,C or G

&lt;400&gt; 173

ggcagcccg	actcgacgc	ctggcaggcg	gcactgggca	tggaaaacga	attgttctgc	60
tggggctcc	tggtgcaccc	gcagtgggtg	ctgtcagccg	cacactgttt	ccagaaactcc	120
tacaccatcg	ggctgggct	gcacagtctt	gagggcggac	aagagccagg	gagccagatg	180
gtggayggca	gcctctccgt	acggcaccga	gagtacaaac	gacvcttgc	cgctaaccgc	240
ctcatgtcca	tcaagttgga	cgatcccggt	tccgagcttg	acaccatccg	gagcatcagc	300
attgcttcgc	agtgcctcac	cgcggggaaac	tattgcctcg	cttctggctg	gggtccgctg	360
gcgaacgggtg	agntcacggg	tgtgtgtctg	ccctcttcaa	ggaggccctc	tgcacagtcg	420
cgggggctga	ccagaggtcc	tgcgtccag	gcagaatgcc	taccgtgctg	cagtgcgtga	480
acgtgtcggg	gggtgtctga	gaggtctgca	gtaagctcta	tgaccgctg	taccacccca	540
gcctgttctg	cgccggcgga	gggcagagcc	ngaaggactc	ctgcacgggt	gactctgggg	600
ggcccttgat	ctgcaacggg	tacttgacgg	gccttgtgtc	tttcggaaaa	gccccgtgtg	660
gccaagttag	cytgccaggt	gtctacacca	acctctgcaa	attcactgag	tggatagaga	720
aaacgttcca	ggcaggttaa	ctctggggac	tgggaaccca	tgaattgac	ccccaaatac	780
atctgtcgga	aggaattcag	gaatatctgt	tccagcccc	tctccctca	ggccaggag	840
tccagggccc	cagccctcc	tccctcaaac	caagggtaca	gatccccagc	ccctctctcc	900
tacagaccag	gagtcragac	ccccagccc	ctctctctc	agacccaggc	gtccagcccc	960
tctctctca	gacccaggag	tccagacccc	ccagccctc	ctctctcaga	ccuagggggtt	1020
gaggccccc	acccctctc	cttcagagtc	agaggtccaa	gcccccaacc	ctcgttccc	1080
cagacccaga	ggtnnaggtc	ccagccctc	ttctntuaga	cccagnggtc	caatgccacc	1140
bagattttcc	ctgnacacag	tgcctccctg	tggngagttg	acccaacctt	accagttggg	1200
ttttcatttt	tngtcccttt	cccttagatc	cagaaataaa	gtttcaggag	ngngcaaaaa	1260
aaaaa						1265

&lt;210&gt; 174

&lt;211&gt; 1459

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...[1459]



&lt;223&gt; n = A,T,C or G

&lt;400&gt; 174

ggcagccgc	acactgttcc	caggaagtgg	tgcagagctc	ctacaccate	gggctggguc	60
tgcacagtct	tgagggcggc	cagagccrag	ggagccagat	ggtaggggcc	agcctctccg	120
tacggcacc	agagtacaac	agacccttgc	tgcctaacga	cctcatgctc	atcaggttgg	180
acgaatccgt	gtcccgagtct	gacaccatcc	ggagcatcag	cattgcttcg	cagtgcctta	240
cggcggggaa	ctcttgcttc	gttcttggtc	ggggctctgt	ggcgacgggt	gagctcagcg	300
gtgtgtgtct	gcctctcttc	aggaggtctc	ctgcccaytc	gcgggggctg	acccagagct	360
ctgcgtccca	ggcagaatgc	ctaccgtgct	gcagtgcgtg	aacgtgtcgg	tggtgtctga	420
ngaggtctgc	antaaggtct	atgaccctgc	gtaccacccc	ancatgttct	gcgcgggctg	480
agggccagac	cagaaggact	cctgcaacgt	ggagaggggg	aaaggggggg	gcaggggctc	540
cagggagggg	tgagaggggg	ggagacagag	acacacaggg	ccgcacggcg	agatgcagag	600
atggagagac	acacagggag	ccagtgaaca	ctagagagag	aaatgcagag	aaacagggaa	660
ataaacacag	gaataaagag	zagcaaggga	agagaggaac	agaaacagac	atggggaggc	720
agaaacacac	acacatagaa	atgcagttag	ccttccaaac	gcctgggggc	tgaggggggt	780
gacctccacc	caatagaana	tctcttata	acttctgact	ccccaaaaac	ctgactagaa	840
atagcctact	gttgacgggg	agccttacc	ataacataaa	taqtugattt	atgcatacgt	900
tttatgcatt	catgatctac	cttctgttga	atttcttctg	atttcttaag	taacaggttc	960
gtctgtgaat	tttttttaaa	tgttgcaact	ctcctaaaaa	tttctctgat	tgtttcttga	1020
aaaaatccaa	gtataagtg	acttctgcat	tcaaacacag	gttcttcaag	ggtcactctg	1080
gtacccagag	gggaacagtg	acacagattc	atagaggtga	aacacgagga	gaaacagggaa	1140
aaatcaagac	tctacaaaga	ggctgggcag	ggtaggttca	gcctgtaata	ccaggaacttt	1200
gggagggcgg	gcagggcagat	cacttgaggt	agggagttca	agacagccct	ggccaaaatg	1260
gtgaaatcct	gtctgtacta	aaatataaaa	agttagctgg	acatggtggc	agggcgcctgt	1320
aatcccaagc	acttggggag	ctgagggcag	agaaltgctt	gaatatggga	ggcagaggtt	1380
gaagtgagtt	gagatcacac	cactatctct	cagctggggc	aacagagtaa	gactctgtct	1440
caaaaaaaa	aaabaaabaa					1459

&lt;210&gt; 175

&lt;211&gt; 1167

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (1167)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 175

gcgcagccct	ggcagggggc	actgggtcatg	gaaacaggaat	tgtctctgctc	gggctgcttg	60
gtgcacccgc	agtggttggt	gtcagccgca	cactgttctc	agaaactccta	caccuatcggt	120
ctggggcctgc	acagtcttga	ggccgaccaa	yagccagggga	gcagagctggt	ggagggcagc	180
ctctcgttac	ggcaccagga	gtacacacaga	ctcttgctcg	ctaacgacct	catgctcctc	240
aaagtggagc	aatccgtgtc	cgagctctgac	accatccggga	gcatacagcat	tgtctcgcag	300
tgcctacccg	cgagggaactc	ttgcctcgtt	tctgggtggg	gtctcgtggc	gaacggcaga	360
atgcctarcc	tgtctgacckg	cgtgaaucgtg	tgggtgggtg	ctgaggangt	ctgcagttaa	420
ctctatgac	cgtctgacca	ccnncagcalg	ttctgcgcgc	gcggaggggca	agacnagaaq	480
gactcctgca	acggtgactc	tggggggccc	ctgatctgca	acgggtactt	gcagggcctt	540
gtgtctttcg	gaaagacccc	gtgtggccaa	cttggcgtgc	caagtggtcta	caccaaacttc	600
tgcraatcca	ctgagtggtg	agagaaaacc	gtccagttcc	gttaactctg	gggactggga	660
acccatgaaa	ttgaccccc	aatatctctc	gcggaangaa	ttcaggaata	cttgttccca	720
gccctcctc	cctcagggcc	aggagtcag	gccttcagcc	cctctcccl	caaaccaagg	780
gtacagatcc	ccagccctc	ctcctcaga	cccaggagtc	cagacccccc	agccctcctc	840
ccttcagacc	caggagtcca	gccctcctc	ccttcagacc	aggagtcag	accccccagc	900

```

cccccccccc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc 960
cccccccccc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc 1020
cccccccccc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc 1080
cccccccccc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc 1140
cccccccccc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc ccccccagc 1167

```

<210> 176  
 <211> 205  
 <212> PRT  
 <213> Homo sapien

<220>  
 <221> VARIANT  
 <222> (1)...[205]  
 <223> Xaa - Any Amino Acid

```

<400> 176
Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1      5      10      15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20      25      30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35      40      45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Leu Leu Leu
 50      55      60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65      70      75      80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85      90      95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met
100      105      110
Pro Thr Val Leu His Cys Val Asn Val Ser Val Val Ser Glu Xaa Val
115      120      125
Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala
130      135      140
Gly Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly
145      150      155      160
Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys
165      170      175
Ala Pro Cys Gly Gln Leu Gly Val Pro Gly Val Tyr Thr Asn Leu Cys
180      185      190
Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Xaa Ser
195      200      205

```

<210> 177  
 <211> 1119  
 <212> DNA  
 <213> Homo sapien

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<400> 177
ggcagctcgc agcctctggc cgcgggactg gtcctcggaa acgaattgtt ctgctcgggc 60
gctctgggtg atcgcagctg ggtcctgttc gccgcacact gtttcacgaa ctctacacac 120
atcgggcttg gctcgcacag ccttgaggac gcccaagagc cagggagaca gatgctggag 180
gcagcctct ccgtacggca cccagagtac aacagacact tgcctcctaa cgaactcatg 240
ctcatcaagt tggacgaatc cgtgtcgcag tctgcaccca tccggagcat cagcattgct 300

```

```

tcgcagtgcc ctaccgcggg gaactcttgc ctggtttctg gctgggggtct gctggggaac 360
gatgctgtga ttgccatcca gtcccagact gtgggaggct gggagtgtga gaagctttcc 420
caaccctggc aggggttgtac catttcggca acllccagtg caaggagglc ctgctgcatc 480
ctcactgggt gctcactact gtcactguc tcacccggaa cactgtgate aactagccag 540
caccatagtt ctccggaagtc agactatcat gatlaactgt ctgactgtgc tgtctat.tgt 600
actaaccatg ccgatgttta ggtgaaatta ggcactctg guctcaacca tcttggatc 660
cagttatect cactgaatby agatttctg ctccagtgc agccattccc acataatttc 720
tgacctacag aggtgagggg tcatalagct ctccaaggat gctygtactc cctccacaaa 780
ttcatttctc ctgttgtagt gaaaggtgag cctctctggag cctccraggg tgggtgtgca 840
ggtcacaatg atgaatgtat gatcgtcttc ccattaccca aaguctttaa atccctcatg 900
ctcagtacac cagggcaggc ctagratte ttcatctagt gtatgctgtc cttccatgca 960
accacctcag gactcctgga ttctctgct agttgagctc ctgcatgctg cctccttggg 1020
gaggtgaggg agagggccca tggttcaatg ggalctgtgc agttgtacc ctttaggtgc 1080
tlaataaada gaagctgtga tgttaaaaaa aaaaaaaa 1119

```

&lt;210&gt; 178

&lt;211&gt; 164

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (1) ... (164)

&lt;223&gt; Xaa = Any Amino Acid

&lt;400&gt; 178

```

Met. Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
1          5          10          15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
20          25          30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
35          40          45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu
50          55          60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
65          70          75          80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
85          90          95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Asp Ala Val
100          105          110
Ile Ala Ile Gln Ser Xaa Thr Val Gly Gly Trp Glu Cys Glu Lys Leu
115          120          125
Ser Gln Pro Trp Gln Gly Cys Thr Ile Ser Ala Thr Ser Ser Ala Arg
130          135          140
Thr Ser Cys Cys Ile Leu Thr Gly Cys Ser Leu Leu Leu Thr Ala Ser
145          150          155          160
Pro Gly Thr Leu

```

&lt;210&gt; 179

&lt;211&gt; 250

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 179

ctggagtgc	ttgggttttc	aggccctgc	aggaagcaga	atgcaccttc	tgaggcacc	60
ccagclgccc	cggccgggg	gatgcgggc	tggagcacc	cttgccggc	tgtgattgt	120
gccaggcact	gttcatctca	gtttttctgt	ccctttgctc	cgggcaagg	ttctctgga	180
aagttcatat	ctggagcctg	atgtcttacc	gaatcaaggc	cccatgctcc	acccgaaaaa	240
aaaaa						250

&lt;210&gt; 180

&lt;211&gt; 202

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 180

actagtccag	tgtggctggaa	ttccattgtg	ttggggccca	cacaatggcl	acctttaane	60
tcacccagac	ccggcccttg	cccgctgcgc	acgtctgtgc	tcaatgacagt	atgatgutta	120
ctctgtact	cggaaacat	ttttatgtaa	ttatgtatg	ctttcttgtc	tataaatgac	180
tgatttaaaa	aaaaa	aa				202

&lt;210&gt; 181

&lt;211&gt; 558

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(558)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 181

cccytttkt	naggtttkk	agacacccc	agaactwaan	ctgtgtcaca	gaacttcynng	60
aatgttttag	cagtgttagt	aatttcytcg	taatgattcl	gttattactt	tcctnattct	120
ttattctct	ttctctgaa	gattaatgaa	gttgaaatt	gaggtggela	aatacaaaa	180
ggtagtgtga	tagtataagt	atctaaagtgc	agatgaaagt	gtgttatata	tatccattca	240
aaattatgca	agttagtact	tactcagggc	taactaaatt	actttaatcl	gctgttgaa	300
ctactctgtc	cottggctag	aaaaaatlat	aaacaggact	ttgttagttt	gggaagucca	360
attgataata	ttctatgttc	taaaagttag	gctatacata	aattattaa	aaatatggaw	420
ttttattccc	aggaatatgg	kgttcatttt	atgaatatta	cscrygatag	awgtwtgagt	480
aaaycagtc	ttggtwaaat	ygtwaatatg	tcmteaataa	acaakgctcl	gaactatttc	540
caaaaaaaa	aaaaaaa					558

&lt;210&gt; 182

&lt;211&gt; 479

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(479)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 182

acagggwtck	grggatgcta	agccccrga	rwtygcttga	tccaacccctg	gottwtcttc	60
agaggggaaa	atggggccta	gaagktacay	macatytagy	tggttgcmtg	gcacccctgg	120
cctcacacag	artcccyagt	agctgggact	acaggaacac	agtractgaa	gcagggccctg	180
ttwgcatttc	acgttgccac	ctccaaattc	aacattcttc	atctgtgatg	tccltagtca	240
ctcaggttaa	acttlccuac	ccagaaagg	caactttagat	aaaatcttag	agtactttca	300

tactmttcta agtctctctc cagctctact	kkagagctctm cytggggggtt gatcggaant.	360
ntctcttggc tttctcaala aartctctat	ycatctcatg tttcaalttg tarcacacaa	420
awtgstgaca aaattaaat gtctctggtty	maatttaaaa aaaaaa aaaaaa	479

&lt;210&gt; 183

&lt;211&gt; 384

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 183

aggcgggagc agagagtaaa gccaaagccc	aagaagagtg gcagtgccag cactgggtgcc	60
agtaccagta ccaataaacg tgcagtgcc	agtgccagca ccagtggttg ctccagtgct	120
gggtgccagcc tgacggccac tctcacattt	gggtctcttc ctggcctcgg tggagctgg	180
gccagracca gtggcagctc tgggtgctgt	gggtctcttc acaggtgaga ttttagatnt	240
tgttactcct gccagtgctt ctcttcagc	cagggtgcat cctcagaaac ctactcaaca	300
cagcactcta ggcagccact atcaatcaat	tgaagttgac actctgcaat aratctcttt	360
gcatttcca aaaaaa aaaa		384

&lt;210&gt; 184

&lt;211&gt; 496

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(496)

&lt;223&gt; n = A, T, C or G

&lt;400&gt; 184

accgaatttg gaccgctggc ttataagcga	tcatgttynt ccrptatkar ctcaacgagc	60
aggagagatg agtctatarg ctgaagaaat	ttgacccgat gggacaacag acctgctrag	120
cccatcctgc tgggttcttc ccagatgaca	aatactcttg acacccaate accatcaaga	180
aacgcttcaa ggtgctcatg anccagcaac	cgrgcccctgt cctctgaggg tcccttaaac	240
tgatgtcttt tctgccacct gttacccctc	ggagactccg taaccgaact ctccggaotg	300
tgagccctga tgcctttttg ccagccatac	tctttggcat ccagtccttc gtygagattg	360
attatgcttg tgtgaggcaa tcatggctgg	atcccccata aagggaacac atttgacttt	420
ttttctcat attttaatt actacmagaw	tattwmagaw waaatgawtt gaaaaactst	480
taaaaaaa aaaaaa		496

&lt;210&gt; 185

&lt;211&gt; 384

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 185

gctggtagcc tatggcgxgg ccacaggagg	ggctcctgag gccacgggac agtgaattcc	60
caagtatcyt ggcgsgcgtc ttctaccgtc	ctacacctga gatcttcggg cagatccccc	120
aggagggaat ggacgtggcc ctcatggagc	acagcaactg ytcgfcggag ccgggctctc	180
gggcacaccc tcttggggcc caggcgggca	cctgctgttc ccagtatgcc aactggctgg	240
lqgtgtgtct cctgtctatc ttctgtctcg	tggcgaacat cctgctgggc aactgtctca	300
ttgcctatgt cagttacaca ctgggcaag	tacaggggca cagcgatctc tactgggaag	360
gcgcagcgtt accgcctcat ccgg		384

&lt;210&gt; 186

&lt;211&gt; 577

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (577)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 186

gagtttagctc	ctccacaacc	ttgatgaggt	cgtctgacgt	ggcctctcgc	ttcataccgc	60
tnccatcgtc	atautgtagg	tttgcaccca	cytcctggca	tcttgggggc	gcnbaatatt	120
ccaggaaact	ctcaatcaag	tcacccgtcg	tgaaacctgt	gggctgggtc	tgtcttcgcg	180
tccgtgtgaa	aggatctccc	agaaggagty	ctcgatcttc	cccacacttt	tgaatyacttt	240
attgagtcga	ttctgcatgt	ccagcaggag	gttgtaccag	ctctctgaca	gtgaggtcac	300
cagccctatc	atgccttga	mcgtgccgaa	garcacrgag	ccttggtgtg	gggkkgaggt	360
ctcaccaga	ttctgcattc	ccagagagcc	gtggcacaag	acattgacaa	actcgccag	420
gtggaaaaag	amcactctct	ggargtgctn	gocgctcttc	gtcmgttggt	ggcagcgctw	480
tccctttgac	acacaaacaa	gttaacaggca	ttttcagccc	ccagaaantt	gtcatcatcc	540
aagatntcgc	acagcactna	tccagttggg	attaatat			577

&lt;210&gt; 187

&lt;211&gt; 534

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (534)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 187

aacatcttcc	tgtataatgc	tgtgcaatat	cgatccgactn	ttgtctggtg	agaatycatw	60
actkggaaaa	amaccattaa	agcctggaca	ctggattata	aattcaccaat	atgcacacact	120
ctcaacagtg	tgtcaabctg	ctccrynac	tttgtcatca	ccagttctgg	aakaagggta	180
tgccttattc	acacctgtta	aaaggggcgt	aagcattttt	gattcaacat	cttttttttt	240
gacacagtc	cgaaaaaagg	aaaagttaac	agttatyaat	ttgttagcca	attcactttc	300
ttcatgggac	aggagcatyt	gatttaaaaa	gcacatttgc	taatatctgag	cttyggggagc	360
tgatatttga	gcggaaagag	agcctttcta	cttcaccaga	cacaactccc	ttcatattg	420
ggatgttnac	naaagtwatg	tctctwacag	atgggatgct	tttgtggcaa	ttctgtcttg	480
aggatctccc	agtttattta	ccactttgac	aagaaggcgt	tttctctctc	aggr	534

&lt;210&gt; 188

&lt;211&gt; 761

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (761)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 188

agaaaccagt	atctctnaaa	acaaacclcto	ataccttggtg	gaacctaat	tgtgtgsgtg	60
tgtgtgtgcg	cgcactttct	atugacaggg	acatcttttt	tactcttgtg	aaagcttatg	120
cctctttggg	atctatatct	gtgaaagttt	taatgatctg	ccatwatgtc	ttgggaacct	180

t.t.g.l.c.t.t.c.t.y	t.g.t.a.a.t.g.g.t	a.r.t.a.g.a.g.a.a.a	a.c.a.c.c.t.a.t.n.t	t.a.t.g.a.g.c.c.a.a	t.e.t.a.g.t.t.n.g.t	240
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g.g.g.g.g.c.e.a.a.y	a.u.a.a.g.c.a.a.a.a	c.t.g.a.m.c.a.t.a.a	r.a.a.a.c.a.t.w.a	c.c.t.g.g.t.g.a.g.a	a.r.t.t.g.c.a.t.a.a	360
a.c.a.g.a.a.t.w.r	g.g.t.a.g.t.a.t.a.t	t.g.e.a.r.n.a.c.a.g	c.a.t.r.a.t.t.a.a.a	r.m.g.t.t.w.t.k.t.t	w.t.t.c.t.c.c.o.r.t	420
g.c.a.a.a.a.a.e.c.a	t.g.t.a.c.n.g.a.c.t	t.c.c.c.g.t.t.g.a.g	t.a.a.l.g.c.c.a.a.g	t.t.g.t.t.t.t.t.t.t	t.a.t.n.a.t.a.a.a.a	480
c.t.t.g.c.c.r.t.t.e	a.t.t.a.c.a.t.g.t.t	t.n.a.a.a.y.t.g.y.t	g.t.g.g.t.g.g.g.c.c	a.a.a.a.t.a.t.t.g.a	a.a.t.g.a.t.g.g.a.a	540
c.t.g.a.c.t.g.e.l.a	a.a.g.u.t.g.t.a.c.a	a.a.t.a.a.g.c.a.g.t	g.t.g.c.c.t.a.a.c.a	a.g.c.a.a.c.a.c.a.y	t.a.a.t.g.t.t.g.a.c	600
a.t.g.c.t.t.a.a.t.t	c.a.c.a.a.a.t.g.c.t	a.a.l.l.t.c.a.t.t.a	t.a.a.a.t.g.t.t.t.g	c.t.a.a.a.a.t.a.c.a	c.t.t.t.g.a.a.c.t.a	660
t.t.t.t.t.c.t.g.t.n	t.t.c.c.c.a.g.a.g.c	t.g.a.g.a.t.n.t.t.a	g.e.t.t.t.t.a.t.g.t	a.g.t.a.t.n.a.a.g.c	g.a.a.a.a.a.a.n.t.a.c	720
g.a.a.a.a.t.a.a.t.a	a.c.a.t.t.g.a.a.g.a	a.a.a.a.n.a.n.a.a.a	a.a.a.a.a.a.a.a.a.a	a		761

&lt;210&gt; 189

&lt;211&gt; 482

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(482)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 189

t.t.t.t.t.t.t.t.t.t	t.t.t.g.c.g.a.t.n	c.t.a.c.t.a.t.t.t.t	a.t.t.g.c.a.g.g.e.n	g.t.g.g.g.g.g.t.g.t	a.t.g.c.a.c.c.g.c.a	60
c.a.c.c.g.g.g.g.g.t	a.t.n.a.g.a.a.g.c.a	a.g.a.a.g.g.a.a.g.g	a.g.g.g.g.g.g.g.c.a	c.a.g.c.c.c.c.t.t.g	c.t.g.a.g.c.a.a.c.a	120
a.a.g.c.c.g.c.o.c.t.g	c.t.g.c.e.t.t.c.t.c	t.g.l.c.t.g.t.c.t.c	c.t.g.g.t.g.c.a.g.g	c.a.c.a.t.g.g.g.g.a	g.a.c.c.t.t.c.c.c.c	180
a.a.g.g.r.a.g.g.g.g	c.c.a.c.c.a.g.t.c.c	a.g.g.g.g.t.g.g.g.a	a.t.a.c.a.g.g.g.g.g	t.g.g.g.a.n.g.t.g.t	g.u.a.t.a.a.g.a.a.g	240
t.g.a.t.k.y.g.c.a.c	a.g.g.c.c.a.c.c.c.g	g.t.a.c.a.g.a.c.c.c	c.t.c.g.g.c.t.c.c.t	g.a.c.a.g.g.t.n.g.a	t.t.t.c.g.a.c.c.a.g	300
g.t.c.a.t.t.g.t.g.c	c.c.t.g.c.c.c.a.g.g	c.a.c.a.g.c.g.t.a.n	a.t.c.t.g.g.a.a.a.a	g.a.c.a.g.a.a.t.g.c	t.t.t.c.c.t.t.t.t.c	360
a.a.a.t.t.t.g.g.g.c	n.g.t.e.a.t.n.g.a.a	n.g.g.g.c.a.n.t.l.t	t.c.a.a.a.n.t.t.n.g	g.c.t.n.g.g.t.c.c.t	g.g.t.a.c.n.c.t.t.g	420
g.t.t.c.g.g.c.c.c.a	g.t.c.c.n.c.g.t.c	c.a.a.a.a.a.n.t.a.t	t.c.a.c.c.c.n.a.c.t	c.c.a.a.a.t.t.g.c.t	t.g.c.n.g.a.n.c.c.c	480
c.c						482

&lt;210&gt; 190

&lt;211&gt; 471

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(471)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 190

t.t.t.t.t.t.t.t.t.t	t.t.t.t.a.a.a.c.a	g.t.t.t.t.t.c.a.c.a	a.c.a.a.a.a.t.t.t.a	t.t.a.g.a.a.g.a.a.t	a.g.t.g.g.t.t.t.t.g	60
a.a.a.a.c.t.c.t.c.y	c.a.t.c.c.a.g.t.g.a	g.a.a.c.l.a.c.c.a.t	a.c.a.c.c.a.c.a.t.t	a.c.a.g.c.t.n.g.g.a	a.t.g.t.n.c.t.c.c.a	120
a.a.t.g.t.c.t.g.g.t	c.a.a.a.t.g.a.t.a.c	a.a.t.g.g.a.a.c.c.a	t.t.c.a.a.t.o.t.t.a	c.a.c.a.t.g.c.a.c.g	a.a.g.a.a.c.a.a.g	180
c.g.c.t.t.t.t.g.a.c	a.t.a.c.a.a.t.g.c.a	c.a.a.a.a.a.a.a.a.a	a.g.g.g.g.g.g.g.g.g	g.a.u.c.a.c.a.t.g.g	a.t.t.a.a.a.a.t.t.t	240
t.a.a.g.t.a.c.t.c.a	t.c.a.c.a.t.a.c.a.t	t.a.a.g.a.c.a.c.a.g	t.t.c.t.a.g.t.c.a	g.t.c.n.a.a.a.a.t.c	a.g.a.a.c.t.g.c.n.t	300
t.g.a.a.a.a.a.t.t.t	c.a.t.g.t.a.t.g.c.a	a.t.c.a.a.c.c.a.a	a.g.a.a.c.t.t.n.a.t	t.g.g.t.g.a.t.c.a.t	g.a.n.t.n.c.c.t.a	360
c.t.a.c.a.t.c.a.a.c	c.t.t.g.a.t.c.a.t.t	g.c.c.a.g.g.a.a.c.n	a.a.a.a.g.t.t.n.a.a	a.n.c.a.c.n.c.n.g.t	a.c.a.a.a.a.a.n.a.a	420
t.c.t.g.t.a.a.t.t.n	a.n.t.c.a.a.c.c.t	c.c.g.t.a.c.n.g.a.a	a.e.a.t.n.t.t.n.t	t.a.t.a.c.a.c.t.c.c	c	471

&lt;210&gt; 191

&lt;211&gt; 402

&lt;212&gt; DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (402)

<223> n = A,T,C or G

<400> 191

gagggattga	agggtctgtc	tastgtoggm	ctgttcagcc	accaactcta	acaagtttgt	60
gtcttccact	cactgtctgt	aagcttttta	ccccagacwg	tatcttcata	aatagaccac	120
attcttcacc	agtcacatct	tctaggacct	ttttggattc	agttagtata	agctcttccc	180
cttcctttgt	ttagaactta	tctggtaagg	tcttaagttt	tgtagaaagg	aattyaattg	240
ctcgtttctc	aacaatgtcc	tctccttgaa	gtatttggct	gaacaaacca	cctaaagtcc	300
ctttgtgcat	ccatttttaa	tatacttaat	agggcattgk	tncactaggt	tcaattctgc	360
aagagtcatc	tgtctgcaaa	agttgcgtta	gtatctctgc	ca		402

<210> 192

<211> 601

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (601)

<223> n = A,T,C or G

<400> 192

gagctcggat	ccaataatct	ttgtctgagg	gcagcacaca	tatncagtgc	catggnaact	60
ggtctacccc	acatgggagc	agcatgcrgt	agntatataa	ggtcattccc	tgagccagac	120
atgcytyttt	gaytacgctg	tgcraagtgc	ctggtgattcl	yaacacacyt	ccatcccgyt	180
cttttctgga	aaaactggca	cttkctctga	actagcarga	catcacttac	aaattcaccc	240
acgagacact	tgaagggtgt	aacaaagcga	ytcttgcatt	gctctttgtc	ctccgggcac	300
cagttgtcaa	tactaacccg	ctggtttgcc	tccatcccat	ttgtgatctg	tagctctgga	360
tacatctcct	gacagtactg	aagaacttct	tctttctggt	caaaagcacc	tcttggtgcc	420
tgtcagatca	ggttcccatc	tcccagtcyg	aatgtccaca	tggcatattt	waattcccac	480
aaaacattgc	gattttaggc	tcagcaacag	caaatcctgt	tccggcattg	gctgcaagag	540
cctcagatga	gcccggccagc	gccaaaggcag	gcgcctgtgag	ccccaccagc	agcagaagca	600
s						601

<210> 193

<211> 608

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (608)

<223> n = A,T,C or G

<400> 193

atcacagccc	natccracca	cgaagatgag	cttgttgact	gagaacctga	tgcggtaact	60
ggtcccgcctg	tagccccagc	gactctccac	ctgctggaag	cggttgatgc	tgcactcytt	120
cccaacgcag	gcagmagcgg	gscgggtcaa	tgaactccny	tctgggcttg	gggtkgacgg	180
tkaagtgcag	gaagagggctg	accacctcgc	ggttccacag	gatgcccagc	tgtgaggagc	240
ctgcagcga	actcctcgat	ggtcattgagc	gggaagcga	tgaggcccag	ggccttgccc	300



```

agaaccttcc gactgttctc tggugtcacc tgcagctgct gccgctgaca ctggguctcg      360
gaccagcgga caaacgggct tgaacagccg ccctccacgg atgcccagtg tgcgctgctc      420
caggammugac accagcgtgt ccaggtcaat gtcgggtgaag cccctcccgcg gtralgycgt      480
ctgacgtggt tctgtcgatg ttctccaggc ccagccttgc cagctgcccgt tcatcgaaga      540
gtcgcgccctg cgtgagcagc algaaggcgt tgcgggctcg cagttctctt tcagggaactc      600
cacgcaar.                                     608

```

```

<210> 194
<211> 392
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(392)
<223> n = A,T,C or G

```

```

<400> 194
gaacggctgg accttgcttc gcatctgtgt tgcctggcagg gaataccttg gcaaggagyt      60
cragtccgag cagccccaga ccgtgcccgc cngagcctaa gctgcctctt ggccttccrc      120
tccgcccaca tgcagaacca gtatggggag cactgtgttt agagltcaga gtgaacactg      180
tttgatttta cttggggaat tctctgttta tatagctttt cccaatgcta atttccaaac      240
aacaacaaca aaataacatg ttgctctgtt aagttgtata aaagtaggty attctgtatt      300
taaaqaaant attactgtta catatactgc ttgcaatttc tctatttatt gkctctatgg      360
aaataaatat agttatttaa ggttgtrant. cc      392

```

```

<210> 195
<211> 502
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(502)
<223> n = A,T,C or G

```

```

<400> 195
cccttkgagg ggtkaggkyc cagtttccgc gtggaagaaa caggccagga gaagtgcttg      60
ccgagctgag gcagatgttc ccacagtga cccagagacc styggatata gtycttgacc      120
cctcncaagg aaagaccaca ttctggggac atgggctgga gggcaggacc tagaggcacc      180
aaggggaagg cccattccgg ggtgtgtccc cgaggaggaa gyyaaggggc tctgtgtgac      240
cccnasgagg aaguggccct gagtccctgg atcagacacc ccttccagty tatccccaca      300
cnaatgcaag ctncaccagg tccccctcca gtccrcttcc atcacactg amcygccact      360
gscscacarc caccagagc acgccacccg ccattggggar tgtgctcaag gartcgcnag      420
gcarcgtgga catctgtccc cagaaggggg caggaatctcc aatagangga ctgarcmatt      480
gctnaneaaa aaaaanaaaa aa                                     502

```

```

<210> 196
<211> 665
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(665)

```

<223> n = A,T,C or G

<400> 196

gggtacttgg	tctcattgcc	accacttagt	ggatgkcat	tagaaccatt	ltgtctgctc	60
ccctcggag	ccttgccag	agcggacttt	gtantgttg	gaggaataact	gctgaattctt	120
wagctgtttk	gagttgatts	gcaccactgc	ancccccact	tcaatatgaa	aaayawttga	180
actwatctat	tctcttgtga	aaagtalaa	aatgaaath	ttgttcatac	tgtatfkac	240
aagtatgatg	aaaagcaawa	gatatatatt	cttttattat	gttaaatfat	gattgccatt	300
actaatcggc	aaantgtgga	gtgratgttc	ttttcacagf	aatatgtgcc	ttttgtaact	360
tactttggtt	attttattgg	aatgattta	caaaattctt	aatttaagar	aatggtatgt	420
watatatttt	tcattaatctt	ctttcctkgt	ttacgtwaat	ttlgaanaaga	wtgcattgatt	480
ttttgacaga	aatcgatctt	gatgctgtgg	aagtagtttg	accacatcc	ctatgagttt	540
ttcttagant	gtotaaaggt	tgtagcccat	unaaacttcaa	agaaanaaat	gacnacatac	600
tttgcaatca	ggctgaaalg	tggcatgctn	ttctaattcc	aactttataa	actagcaaan	660
aagtg						665

<210> 197

<211> 492

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (492)

<223> n = A,T,C or G

<400> 197

ttttntttct	ttttttttgc	aggaaggatc	ccattttatcg	tggatgcatt	ttcacaatat	60
atgttttattg	gagcgatcca	ttatcagtga	aaagtatcca	gtgtttcataa	natttttagg	120
aaggragatt	cacagaaacat	gctngtcngc	ttgacgtttt	acctcgtaaa	gatnacagag	180
aatatagtgc	naaccagtaa	acnaggatt	tacttttcaa	aaatattaaat	ccaaactgaa	240
caaaattcta	ccctgaagact	tactccatcc	aaatattgga	ataanaagtc	gcagtgatac	300
atctctttct	gaactttaga	ttttctagaa	aatatgttaa	tagtgtatcg	gaagagctct	360
tgttcaaaag	tacaacnaag	caatgtttcc	ttaccatagg	ctttaaattcc	aattttgatc	420
caattcaactc	ccatcacggg	agtcactgct	acctgggaca	cttgtatttt	gttcatnctg	480
ancttggttt	aa					492

<210> 198

<211> 478

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (478)

<223> n = A,T,C or G

<400> 198

tttnttttgn	attcactct	gtannaanta	ttttcattat	gtttattana	aaatatnaa	60
tgtntccarn	acaaatcatn	ttactnagt	aagagggccan	ctacattgta	caacatacac	120
tgagtatatt	tcgaaaagga	caagtlttaa	gtanacncat	attgucganc	atannacatt	180
tatacatggc	ttgattgata	tttagcacag	caaaactga	gtgagttacc	agaaanaaat	240
natatagtgc	aatcngattt	aagatagaaa	acagatncta	tggtaacatan	catctgttag	300
gagttgtggc	tttatgttta	ctgaaagtra	atgcagttcc	tgtacaaaga	gatggccgta	360
agcattctag	tacctctact	ccatgggtta	gaatcgtaga	cttatgttta	catatgtncx	420

gggtacgaat tgtgttaagt taatttatgg agaggtccan gagaaaaatt tgatncaa 478

<210> 199  
 <211> 482  
 <212> DNA  
 <213> Homo sapien  
 <220>  
 <221> misc\_feature  
 <222> {1}...{482}  
 <223> n = A,T,C or G

<400> 199  
 agtgacttgt cctccacaa aaccccttga tcaagtttgt ggcactgaca atcagaccta 60  
 tgcctagttc tgcctatctc togetactaa atgcagagtg gaggggacca azaaggggca 120  
 tcaactcccg ctggtattat ttggagcccty caaatctatt cctacttgta cggactttga 180  
 agtgattcag ttctctctac ggaatgagaga ctggctcaag aatatctca tgcagcttta 240  
 tgaagccnac tctgaacacg ctggttacct. nagatgagaa nccagagaaat aaagtcnaga 300  
 aaatttaoct ggagaaaaag aggcctttngg ctgggggacca tccatttgaa ccttctctta 360  
 anggacttta agaananaact accacatgtt tctngtatcc tggcaccngg ccgtttantg 420  
 aacntngacn ncarccttnt ggaatanant cttagcngrn tccagaactt gctcctctgc 480  
 ga 482

<210> 200  
 <211> 270  
 <212> DNA  
 <213> Homo sapien  
 <220>  
 <221> misc\_feature  
 <222> {1}...{270}  
 <223> n = A,T,C or G

<400> 200  
 cggccgcraag tgcactcca gctggggccg tggggagcaa gattctgcca gcagttggtc 60  
 cgactgcgcg gacggcgccg ggcacagtcg caggtgcagc gcggggccct ggggtcttgc 120  
 agggctgagc tgcagcccca gaggctcgtg cccgccccac gaccttgacc ccgtcgggga 180  
 cagccgggac agagcccggt gaangcggga ggcctcgggg agcccccagg gaagggcgcc 240  
 ccgagagata cgcaggctga ggtggccgcc 270

<210> 201  
 <211> 419  
 <212> DNA  
 <213> Homo sapien  
 <220>  
 <221> misc\_feature  
 <222> {1}...{419}  
 <223> n = A,T,C or G

<400> 201  
 tttttttt ttttggatc tactgcgagc acagcaggtc agcaacaagt tlattttgca 60  
 gctagcaagg taacagggta gggcatggtt acatgttcag gtcaacttcc tttgtcgtgg 120  
 ttgattgggt tgtctttatg ggggcggggt ggggtagggg aaanccaagc anaantaaca 180  
 tggagtgggg gcacccctcc tttgaacct. ggctacnaaa gcttggggca gttcacctgg 240

tctgtgacccg	tcattttctt	gacatcaabg	ttattagaag	tcaggatata	ttttagagag	300
tcactgtnt	ctggaggag	attaggggtt	cttgcccaaa	tcacaaacaa	atccacntga	360
aaaagtggg	tqatncangt	acngaatcc	gagngcatan	ttctcatant	cggtggcca	419

&lt;210&gt; 202

&lt;211&gt; 509

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(509)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 202

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tggcacttaa	tcatttttta	cttcaaaatg	tctacaaant	ctnaatnenc	cattatacng	120
gtatctttnc	aaaatctaaa	antctattca	atctnagcca	aantcettac	ncaaatnnaa	180
tacnncnaaa	aatcaaaaat	atactntctt	ctcagcaaac	ctngtccat	aaattaaaaa	240
aataatatac	gctgggtgtt	tcaaaagtac	attatcttaa	caatgcaaac	ahnttttnaa	300
ggaaactaaa	caaaaaaaa	cactnccgca	aaggttaag	ggaacaaaca	atctntttta	360
caacancnnc	nattataaaa	atcatatctc	aautcttagg	ggatataata	cttcaacang	420
ggatcttaac	ttttactnca	ctttgtttat	ttttttanaa	ccattgtntt	gggccaaca	480
caatggnaat	ncnccnnc	tggactagt				509

&lt;210&gt; 203

&lt;211&gt; 583

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(583)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 203

tttttttttt	ttttttttga	ccccctctt	ataaaaaaca	agttacgatt	ttattttact	60
tacacatatt	tattttctaa	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgccttaga	tacataatct	ttaggaatta	gcttaaaatc	tgcctaaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	atttttgaat	cttgtaaaac	atccaaattc	240
atttttcttg	tccttaaaat	tatctaattt	ctccattttt	tccttatctc	aagtcaattt	300
gcttctctag	ctcatttttc	tagctcttat	ctactattag	taagtggctt	ttttcctaaa	360
agggaaaaaa	ggaagagana	atggcacaac	aaacaaacat	tttatattca	tattttctacc	420
tacgttaata	aaatagcatt	ttgtgaagac	agctcaaaag	aaggcttaga	tccttttatg	480
tcctattttg	tcactaaaag	atctcnaaag	tgcagaatg	caaaagggtt	gtgaacattt	540
attcaaaagc	taataataga	tatttcacat	actcatcttt	ctg		583

&lt;210&gt; 204

&lt;211&gt; 589

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(589)

<223> n = A,T,C or G

<400> 204

tttttttttt	tttttttttt	tttttttttt	tttttttttt	ttganaatga	ggatcgagtt	60
tttcaactct	tagatagggc	atgagagaaa	ctcatctttc	cagcttttaa	ataacaaaca	120
aattctttat	gctatatact	attttaagtt	aaactaattg	gtcactggct	tatctttctc	180
tggaggaagt	ctgttcattc	ttctcattca	tatagttata	tcaagtacta	ccttgcctat	240
tgagaggttt	ttcttctcta	ttacacata	tatttccatg	tgaatttgta	tcaaaccttt	300
attttcagtc	aactagaaa	ataatgtntt	cttttgata	agaggaagga	acaatatnag	360
cattacaaaa	ctgctcaaac	tgtttgttaa	gnttatccat	tataattagt	lmggcaggag	420
ctaatacaan	tcacatttar	ngacnagcaa	taataaaact	gaagtaccag	ttaaatatcc	480
aaaataatta	aaggaaacbt	tttagcctgg	gtataattay	ctaattcaat	ttcaagacat	540
ttattnagaa	tyaattcaca	tgttatttct	contagccca	acacaaatgg		589

<210> 205

<211> 545

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(545)

<223> n = A,T,C or G

<400> 205

tttttttttt	tttttttttt	aataatcaga	acaatattta	tttttatatt	taaaattcal	60
agaaaggtgc	cttacaattt	ataaaaggtt	gtttctcaaa	gcgatcagag	gaattagata	120
tngtcttgaa	cacaaatttt	aatttgaggg	aaataaccca	aaatacctta	agttaattat	180
ttagatcat	agagcttcta	agtgaagaga	taaaatttga	cttcagaaac	tctgaagcatt	240
aaaaatccac	tatttagcda	tzaattacta	tggactctct	gctttaattt	tytgatgaat	300
atgggggtgc	actggtaaac	caacacattc	tgaaggatag	attacttagt	gatagaltct	360
tatgtacttt	gctaatnacc	gtggatatga	gttgacaagt	ttctctttct	tcaatctttt	420
aagggaagng	ngaantgagg	aagaaagga	aaggattacg	catatgtctc	tttctalngy	480
aaggattaga	tatgtttccc	ctgccaatat	taaaaaata	ataatgttta	ctactagtga	540
aaccc						545

<210> 206

<211> 487

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(487)

<223> n = A,T,C or G

<400> 206

tttttttttt	tttttttagtc	aagtctctna	tttttattat	attcaagtc	ttggcatttt	60
cattttattag	ctctycaact	tacatatttt	aattanagaa	acgttntctg	acaactgtta	120
caatttatata	atgtaagggt	caattattga	gtanatatat	tcttccaaga	gtgaatgtgt	180
cctttctccc	acaaactaat	gaancagcaa	cattagttta	atbttattag	tagatnatoc	240
actgtctcaa	acgttaattc	tcttctccat	ccccalqtn	atattgtgta	latgtgtgag	300
ttggtnagaa	tycatcanca	atctnaccat	caacagcaag	atgaagctag	gcntgggctt	360
tgggtgaaaa	tagactgtgt	ctgtctgaat	caaalqutct	gacctatnct	cyttgycag	420
aactctctga	acuycttctt	caaaggcngc	tyccacattt	gtggcctctn	ttgcactgtl	480

ttcnaaa

487

&lt;210&gt; 207

&lt;211&gt; 332

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(332)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 207

tgaattggct	aaaagaatgc	atcttttanaa	cuaggaactc	ttatttcttc	cctttaaaaa	60
tcacatagat	tcaatcccaa	atcctattta	aagacctgac	agcttgagaa	ggtaactact	120
gcatttatag	gacctcttg	tggttctgct	gttaactttg	aantctgaca	atccttgana	180
atccttgcat	gcagaggagg	taaaaggcat	tggattttca	cagaggaana	acacagcgca	240
gaaatgaagg	ggcagggctt	actgagcttg	tccactggag	ggctcatggg	tgggacatgg	300
aaaagaaggc	agcctaggcc	ctggggagcc	ca			332

&lt;210&gt; 208

&lt;211&gt; 524

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(524)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 208

agggcggtgg	gcggaggggc	ttactgtttt	gtctcagtaa	caataaatac	aaaaagactg	60
gttgtgttcc	ggccccatcc	caacacagag	ttgatttctc	ttgtgtgcag	agtgaactgat	120
tttaaaggga	atggagcttg	tcacaatgtc	acaatgtcac	agtgtgaagg	gcacactcac	180
tcccgctga	ttcacattta	gcaavcaaca	atagctcatg	agtcacatac	tgtaaatact	240
tttggcagaa	taccttttga	aacttgacga	tgaatactaa	gatccaagat	atttcccaa	300
gtaaatagaa	gtgggtcata	atatttaatta	cctgttcaca	tcagcttcca	tttacaagtc	360
atgagcccag	acactgacat	caaaactaagc	ccacttagar	tcttcaccau	cagtcctgtcc	420
tgtcattcga	caggaggctg	tcaccttgac	caaattctca	ccagtcacac	atctatccaa	480
aaaccattac	ctgatccact	tcgggtaatg	caccaccttg	gtga		524

&lt;210&gt; 209

&lt;211&gt; 159

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 209

gggtgaggaa	atcagaggtt	gcaatggaga	aaattccagt	gtcagcattc	tlgctccttg	60
tggcctcttc	ctacactctg	gcccagagata	ccacagtcac	acctgagagc	aaaaaggaca	120
caaaggactc	tgcacccaaa	ctgccccaga	ccctcttcca			159

&lt;210&gt; 210

&lt;211&gt; 256

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

<220>  
 <221> misc feature  
 <222> (1) ... (256)  
 <223> n = A,T,C or G

<400> 210  
 acctccctggc agacaaaggu agaggagaga gct.ctgttctg ttctgtgttg ttgaactgcc 60  
 actgaatttc ttccacttg gactcttaca tggcatttga gggactaatg gaaaaacgta 120  
 tggggagatt. ttcccactt tangtntgtt aatggggaga ctggggcagg cggggagagat 180  
 ttgcaygggtg naaatgggan ggct.ggtttt ttanattgaac agggacuatag gaggt.aggca 240  
 ccaggatgct. aaatca 256

<210> 211  
 <211> 264  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (264)  
 <223> n = A,T,C or G

<400> 211  
 acattgtttt. tttagatca agcattgaga gagctctctt taactgaca caattggaagg 60  
 actggaacac ataccacat ctttgttctg agggataatt ttctgataaa gtcttgctgt 120  
 atattcaage acatctgtta tatattattc agttctatct ttatagctta gtttaaggaga 180  
 ggggagatac attongaaag aggaactgaa gaaatartca agtnggaana cagaaaaaga 240  
 aaaaaaggag caaatgaga gcct 256

<210> 212  
 <211> 328  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (328)  
 <223> n = A,T,C or G

<400> 212  
 acccaaaaat ccaatgctga atatttgggt tcattattcc caattcttt gattgtcaaa 60  
 gyatttaatz ttgtctcagc ttggycaact cagttaggac ctaggatgc cagccggcag 120  
 gtttatctat gcagcaacaa tattcaagcg cgacaacagg ttatcgact tgcctggcag 180  
 tttaatttca ttccattga ctgggatacc ttatcatcag ccagagagat tgaatttta 240  
 cccctacnac tctttactct ctgganaggy ccagtgggtg tagctataag ctggccaca 300  
 ttttttttct ctttatttct ttgtcaga 328

<210> 213  
 <211> 250  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature

<222> {1}...{250}

<223> n = A,T,C or G

<400> 213

atttatgagc agagcgacat atccnagtgt agactgaata aaactgaalt ctctccagtt	60
taaagcatfg ctccactgaag ggatagaagt gactgccagg agggaaagta agccaaaggt	120
cattatgcc aagganatat acatttcaat tctccaaact tcttctcat tccaagagtt	180
ttcaatattt gcctgaacct gctgatgaac catgttaana aaacaaatata tctctnacct	240
tctcatcggt	250

<210> 214

<211> 444

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> {1}...{444}

<223> n = A,T,C or G

<400> 214

accagaatc caatgctgaa tatttggttt cattattccc agatcttttg attgtcaaag	60
gatttaattg tctctcagct tgggcacttc agttaggacc taaggatgcc agccggcagg	120
tttatatatg cagcaacaa. attcaagcgc gacaaacagg tattggaact gccgcaggt	180
tgaatttcac tccatttgac ttgggactct tatcatcagg caggagagatt gaaatttcac	240
ccctacgact ctttactct. tggagagggc cagtgttggt agctataagc ttggccacct	300
ttttttttt tttcttctt tgcagagat gogattcatt calatgctan aaaccacacg	360
agtgaatttt acaaatttc talaganatt gtgaatgaaa ccttacctat agttgccatt	420
actttgctct cctaatata cctc	444

<210> 215

<211> 366

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> {1}...{366}

<223> n = A,T,C or G

<400> 215

acttatgagc agagcgacat atccaaagtgt aaactgaata aaactgaatt ctctccagtt	60
taaagcattg ctccactgaag ggatagaagt gactgccagg agggaaagta agcraaaggt	120
cattatgcc aagganatat acatttcaat tctccaaact tcttctcat tccaagagtt	180
ttcaatattt gcctgaacct gctgatgaac catgttgaga aaacaaatata tctctgaacct	240
tctcatcggt aagcagaggc tctaggcaac atggacata gcgaanaaaa aacttagtaa	300
tccaagctgt tttctacact gtaaccaggt tccaaccac ggtggaaatc tcttatactt	360
ggtgcc	366

<210> 216

<211> 260

<212> DNA

<213> Homo sapien

<220>



<221> misc\_feature  
 <222> (1)... (260)  
 <223> n = A,T,C or G

<400> 216  
 ctgtataaac agaatccac tgcangaggg agggcggggc caggagaatc tccgcttgtc 60  
 caggacaggg gertaaggag ggtctccaca ctgctnntaa gggctnttnc attcttttat 120  
 taataaaaag tnnaduaagg ctctctctca cltttttccc ttnggctgga aaatttaaa 180  
 atcaaaatt tctnaagtt ntcangctat catatacct ntatctgaa aaagcaccat 240  
 aattcttcc tccctcctt 260

<210> 217  
 <211> 262  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)... (262)  
 <223> n = A,T,C or G

<400> 217  
 acctacgtgg gtaagtttan aatggtata atttcaggaa naggaacgca tataattgta 60  
 tottgctat aattttctat ttaataagg aaatagcaaa ttggggtggg ggggaatgtag 120  
 ggcattctac agtttyagca aatgcaatt aaatgtgaa ggacagcact gaaaaatttt 180  
 atgaataatc tgtatgatta tctgtctctc gatagattt ataattagcc acttacccta 240  
 atatccttca tgcctctaaa gt 262

<210> 218  
 <211> 205  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)... (205)  
 <223> n = A,T,C or G

<400> 218  
 accaagggtgg tgcattaccg gaantggatc aagacarca tngtggcua ccctgagca 60  
 cccctatcaa ctcccttttg tagtaactt ggaaccttgy aatgacrag gccagactc 120  
 aggcctcccc agttctactg acctttgtcc ctangtntna ngtccaggt tctaggaaa 180  
 anaatcagc agacacaggt gtaaa 205

<210> 219  
 <211> 114  
 <212> DNA  
 <213> Homo sapien

<400> 219  
 tactgttttg tctcagtaac aataatatac aaaagartgg ttgtgttccg gccctatcca 60  
 acccgaagt tgatttctct tctgtgcaga gtgactgatt ttaaaggaca tggg 114

<210> 220  
 <211> 93

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 220

actagccagc acaaaaggca gggtagcctg aattgcttgc tgcctcttcau atttctttta 60  
aaataagcat ttagtgctca gtcctactg agt 93

&lt;210&gt; 221

&lt;211&gt; 167

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{167}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 221

actangtgcg ggtgcgcaca atatattgtc gctattccct tcatcttggg ttccatgagg 60  
tcttttgcgc agcctgtggc tctactgtag taagtttctg ctgatgagg gccaguatgc 120  
ccccactac ctccctgac gctccccana aatcacccaa cctctgt. 167

&lt;210&gt; 222

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 222

agggcgtggt gcggaggggc gtactgacct cattagtagg aggatgcatt ctggcacccc 60  
gtttttcacc tgtcccccaa tcttcaaaag gccatcttgc ataaagtcaa caacagataa 120  
atgtttgctg atttaaggga tggatgaaaa aaattatata tgaatttttg cataatccaa 180  
ttttctcttt tataatttcta gaagangttr ctttgagcct attagatccc gggatctctt 240  
taggtgagca tgaattagaga gttgtaggc tgcctttaca tatacttggc atatttgagt 300  
ctcgtatcna aacaatagat tggtaagggt ggtatttctt cattgataag t. 351

&lt;210&gt; 223

&lt;211&gt; 383

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; {1}...{383}

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 223

aaacacacaa aacaaaaaaa acattcttcc attcagaaaa attatcttag ggactgatat 60  
tggtaattat ggtcaattta atwrtxttkt ggggcatttc cttaoattgt cttgacagga 120  
ttaaaatgtc tgggcacaaa ttttgtattc talttggaga cttcttctca aaagtaatgc 180  
tgcuaaaggga agtctaaggga attagttagt ttrccmccac ttgtttggag tgtgctattc 240  
taaaagattt tgaatttctg gaatgacact tatattttaa ctttggtagg ggaanagti 300  
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accatttggc tatatgttta aaa 383

&lt;210&gt; 224

<211> 320  
 <212> DNA  
 <213> Homo sapien

<400> 224

CCGCTGAAGG CTTCTTGTGA GAAATAGTA CAGTTACGAC CAATGGGAAC AACAAAAAGA	60
AAAAGTTTGT GACALTGTAY TAGGGAGTGT GTACCCCTTA CTCCCATCA AAAAAAAGT	120
GGATACATGG TAAAGGATA RAAGGGCAAT ATTTTATCAT ATGTTCTAAA AGAGGAGGAA	180
GAGAAAAATAC TACTTTCTCT AATCGGAAGC CCTTAAGGT GCTTTGATAC TGAAGGACAC	240
AAATGTGGCC GTCCATCTC CTTTACAGTT GCATGACTTG GACACGGTAA CTGTTGCACT	300
TTTAACTCM GCATTGTGAC	320

<210> 225  
 <211> 1214  
 <212> DNA  
 <213> Homo sapien

<400> 225

GAGGACTGCA GCGCGCCTC GACGCCCTGG CAGGCGGCAAC TGGTCATGGG AACGAATTA	60
TTCTGTCTCG GGTCTCTGGT GCATCCGCAQ TGGGTGTCTGT CAGGCGGCAAC CTGTTTCCAG	120
AATCTCTACA CCATCGGGCT GGGCTGTGAC AGTCTTGAGG CCGACCAAGA GCGAGGGAGC	180
CAGATGGTGG AGGCGAGGCT CTCGTACGG CACCCAGAGT ACACACAGAC CTGCTCTGCT	240
ACGACCTCA TGTCTATCAA GTTGACGAA TCCGTGTCCG AGTCTGACAC CACCTGGAGC	300
ATCAGCATTA CTTCGAGTG CCTACCGG GGGAACTCTT GCCTCTTTC TGGCTGGGGT	360
CTGCTGGGCA ACGGCAGAAAT GCCTACCTTG CTGCACTGCG TGAACGTGTC GGTGGTGTCT	420
GAGGAGGTCT GCAGTAAAGCT CTATGACCCG CTGTACUACC CCAGCATGTT CTGCGCGGC	480
GGAGGGCAAG AACAGAGGGA CTCCTGCAAC GGTGACTCTG GGGGGCCCTT GATCTGCAAC	540
GGGTACTTGC AGGGGCTTGT GTCTTTGGGA AAAGCCCCGT GTGGCAAGT TGGCTGCA	600
GGTGTCTACA CCAACCTCTG CAAATTCACL GGTGGATAG AGGAAACUAGT CCAGGCCAGT	660
CAACTCTGGG GACTGGGAAC CCATGAATTT GACCTCAAA TACATCTGC GGAAGGAATT	720
CAGGAATATC TGTTUCCAGC CCTCTCTCC CTGAGGTCAG GAGTCCAGGC CCCAGCCCC	780
TCCTUCCCA AACCAGGGT ACAGATCCC AGCCCTCCT CCTCAGAC CAGGAGTCCA	840
GACCCCCAG CCGCTCTCTC CTCAGACCA GAGGTCCAGC CCTCTCTCC TCAGACCCAG	900
GAGTCCAGAC CCCCAGCC CTCTCTCTC AGACCCAGG GTCCAGGCC CCAACCCCTC	960
CTCCCTCAGA CTCAGAGGTC CAAGCCCCCA ACCCTCTCT CCCAGAGCC AGAGGTCCAG	1020
GTCCAGGUC CTCCTCTCTC AGACCCAGG GTCCAGTGC AUCTAGACT TCCCTGTACA	1080
CAGTCCCCC TTGTTGGCAG TTGACCAAC CTACCCAGTT GGTCTCTCAT TTTTGTCC	1140
TTTCCCTAG ATCAGAAAT AAGGTCTAG AGAAGCGCA AAAAAAATA AAAAAAATA	1200
AAAAAATA AATA	1214

<210> 226  
 <211> 119  
 <212> DNA  
 <213> Homo sapien

<400> 226

CCCCAGTATG TGCAGGGAGA CGGACCCCA TGTGACAGCC UCTCTACCA GGTCTCCCA	60
AGAACTGGC CCAGTCTAA TCACTCATCC TCAAGTGGC AATAATCAG ATAACCACT	119

<210> 227  
 <211> 818  
 <212> DNA  
 <213> Homo sapien

<400> 227

acaattccta	gggacgacca	atgagggaag	gggaatgaacc	cggctctccc	ccagccctga	60
tttttctac	atatgggglc	acttttcatl	ctttgcacaa	acactgggtt	ttctgagaac	120
acggacggll	cttagacaaa	tttgtgaaat	cttgtgtaraa	ccgggtcttg	caggggagat	180
aattttctc	ctctggagga	aaagtgtgtga	ttgaraggca	gggagacagt	gaacaaggcta	240
gagaaagcca	cgctcggcct	tctctgaacc	aggatggaac	ggcagaccoc	tgaaaacgaa	300
gcttgtcccc	ttccaatcag	ccaattctga	gaaccccat	ctaatctct	actggaaaag	360
agggcctccc	cgaggagcgt	ccaagagbtt	tcnagataa	cgtgacaaat	accatctaga	420
ggaaagggtg	cacccctcag	ayagzagcag	agagctlaac	tctggctcgt	tcacagagaca	480
acctgctggc	tytcttggga	tgcgcacagc	ctttgagagg	ccactacccc	atgaacttct	540
gcacatccat	ggacatgaag	ctgaggacac	tgggcttcac	cactgagttg	tcactgagag	600
gacaggctct	gcocctcaagc	cggctgaggg	uagcaaccac	tctcctcccc	ttctctcagc	660
aaagccattc	ccacaaatcc	agaccatacc	atgaagcaac	gagaccraaa	cagtcttggt	720
caagaggata	tgaggactgt	ctcagacctg	ctttgggtctg	acacccatgca	cacacacgag	780
gtccacttct	aggttctcag	cttagatggg	agtctgtgt			818

&lt;210&gt; 228

&lt;211&gt; 744

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 228

actggagaca	ctgttgaact	tgatcaayac	ccagaccacc	ccaggtctcc	ttcgtgggat	60
gtcatgacgt	ttgacatacc	tttggaaaga	gcctcctcct	tggaagatgg	aaagaccgtgt	120
tcgtggccga	cctggcctct	cctggcctgt	ttcttaagat	gggaagtcc	atttcaatgg	180
taggaaaggt	ggcttctgta	aatagaagag	cagtcaactgt	ggactacaa	aatggcgaga	240
tgtctgggtg	acattggggg	gcttctgggt	aaaagattta	tgagccaaat	attctctggc	300
accagattct	aggccagtft	gttcuactga	agcttctccc	acagcagtrc	acctctcgag	360
gctggcagct	gaatggcttg	ccggtgggtc	tgtggcaaga	tcacactgag	atcgatgggt	420
gagaaaggct	ggatgcttgt	ctagtgttct	tagctgtcac	gttgggtcct	tcagagtttg	480
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ccgtgggtat	ccttggccca	ttccagcagt	cccagttatg	catttcaagt	ttggggcttg	600
ttctttctgt	taatgttctt	ctgtgttgtc	agctgtcttc	atttccctgg	ctaaagcagca	660
ttggggagct	tgaccagag	atccactcct	taagaaccag	tggcyaagga	cactttcttt	720
cttcaactct	aagttagctg	tgtt				744

&lt;210&gt; 229

&lt;211&gt; 300

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 229

cgagtctggg	ttttgtctat	aaagtctgat	ccctcctttt	ctcatcccaa	tcattgtgaac	60
cattacacat	cgaataaaaa	gaaaggtggc	agacttgccc	aaagccaggc	tgacatgtgc	120
tgcagggttg	ttgtttttta	attattatlg	ttagaaaggt	cacccacagt	cctgtttaat	180
ttgtatgtga	cagccaactc	tgayaaaggt	ctatttttcc	acctgcagag	gatccagtrc	240
cactaggctc	ctccttgccc	tcacactgga	gtctccgcna	gtgtgggtgc	ccactgaacat	300

&lt;210&gt; 230

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 230

caqcaagaaca	aatacaaat	tgaagagtg	aaagatctca	taaaatctal	gctgagggaat	60
gagcgacagt	tcaggagga	gaagctlaca	gagcagctca	agcaagctga	ggagctcagg	120

caatataaag tcoctgggtca cactcaggaa cgaagactga cccagtttaag ggaagaagttag 180  
 cgggaaggga gagatgacct cctctcattg aatgagatc tccaggacct cctcactccg 240  
 gntgaaucgg auaagtccca ggggcaggac ctccaaagaa cagacctcgg ccgcyaccac 300  
 g 301

&lt;210&gt; 231

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 231

gcaagcagc tggcaaatct ctgtcaggtc agctccagag aagccattag tcaattttag 60  
 caggaactuu aagtcacat ccttggcaac tgggacttg cgcaggtag ccttgaggat 120  
 ggcaacacgg gacttctcat caggaagtgg gatgtagatg agctgatcaa gacggccagg 180  
 tctgaggatg gcaggatcaa tgatgtcagg ccggttggta cggcaatga tgaacacatt 240  
 tttttttgtg gacatgccat ccatttctgt caggatctgg ttgatgactc ggtcagcagc 300  
 c 301

&lt;210&gt; 232

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 232

agtaggtatt tcttgagaag ttcaacacca aaactggac atagttctcc ttcaagtgtt 60  
 ggcgaacagc gggcttccctg attctggaa ataatcttct gtaaatcaac agccacctat 120  
 agaagagtc atctgctgtg aaggaaagac agagaactct gggctccgtc gtccctgtcc 180  
 cgtgctgtac caagtgttgg tgcagacctg ttacctgttc ccactgaaa tctggctaat 240  
 gctcttctgt atcatttctg attctgacaa tcaatcaatc atgggctag agcactgact 300  
 g 301

&lt;210&gt; 233

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 233

atgactgact tccagtaag gctctctaa gggtaagttag gaggatcac aggattttag 60  
 atgctaagc cccagagatc gtttgatcca accctcttat ttccagaggg gaaatgggg 120  
 cctagaagtc acagagcatc tagctggtgc gctggcacc cgggctcac acagactccc 180  
 gagttagctg gactacagg acacagtcac tgaagcagg cctgttagca attctatgcg 240  
 tacaaattaa catgagatga gttagagatt tattgagaaa gcaagagaaa atccctatcaa 300  
 c 301

&lt;210&gt; 234

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 234

aggtcctada catcagagct cactcatgat tgaatgcat ttaaaattta caagcaaga 60  
 cattttattc atcatgatgc ttctttttgt ttcttctttt cgtttttttt tttttctttt 120  
 tcaatttcag caacatactt ctcaatttct tcaaggattta aaatctttag ggattgatct 180  
 cgctcatga cagcaagttc aatgtttttg ccacttgact gaaccattc caggagtgc 240  
 ttgataccca gcttaatggt cagatcatct gcttcaatgg ctccgctcag atagttcttc 300

t

301

<210> 235  
 <211> 283  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 235

tggggctgtg catcaggcgg gtttgagaaa tattcaattc tcagcagaag ccagaatttg	60
aattccctca tcttctaggg aatcatttar cagggtttga gaggtttcag acagctcagg	120
tgctttcact aatgtctctg aacttctgtc cctctttgtt catggatagt ccataaata	180
atgttatctt tgaactgag ctcataaggag agaataaag aactctgagt gatataaca	240
ttagggtattc aaugaatat tagatttaag ctcacactgg tca	283

<210> 236  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 236

aggtcctccn ccaactgcct gaagcacggt taaaattggg aagaagtata gtgcagcata	60
aatactttta aatcgatcag atttccctaa cccacatgca atcttcttca ccagaagagg	120
tgggagcagc atcattaata ccaagcagaa tgcgtaatag ataaatacaa tggatatag	180
tgggtagacg gcttcatgag cacagtgtac tgtggtatcg taatctggac ttgggttgta	240
aagcatcgtg taccagtcag aaagcatcna tactcgacac gaacgaatat aaugaacacc	300
a	301

<210> 237  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 237

cagtggtagt ggtggtggac gtggcgctgg tctgtgtgcc ttttttgggt cccgtcacia	60
actcaatttt tgttcgctcc tttttggcct ttccaatttt gtccatctca attttcggg	120
ccttggctaa tccctcatag taggagtcct cagaccagcc atggggatca aacatatect	180
ttgggtagt ggtgccaagc tctcaaatgg cacagaatgg atcagcttct cgtaaatcta	240
gggttccgaa attctttctt cttttggata atgtagttca tatccattcc ctcccttate	300
t	301

<210> 238  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

&lt;400&gt; 238

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gttcacagtt cagccccctg ctccagaaac caacggggcca gctaaggaga ggaggagyc	120
ccttgagact tccggagtcg aggtcttcca gggttcccca gccatcaat cttttctctg	180
acccccctg ccgggaagcag ctccctgggg ggtgggaatg ggtgactaga agggatttca	240
gtgtgggacc cagggtctgt tcttcacagt aggaggtggg agggatgact aatttcttta	300
t	301

<210> 239  
 <211> 239

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 239

ataagcagct agggatttct ttatttagta atgtcctaac ataaaagttc acataactgc	60
ttutgtcaaa ccatgatgct gagcttctgt acanccaga aataactaag agaaggcaaa	120
cataatgct cagagatcaa gaanacattc cacagttcaa ctgtttcaaa atagctcaac	180
attcagccag tsagtagagt gtgaatgca gcatacacag tatcacaggtc cticaygga	239

&lt;210&gt; 240

&lt;211&gt; 300

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 240

ggctctaattg aagcagcagc ttccacattt taacgcaggt ttaagggtgat actgtctttt	60
gggatctgcc ctccagtgga accttttaag gaagaaagtgy gcccaagcta agttcccat	120
gctgggtgag ccagatgact tctgttccct ggtcaccttc tccaatgggg cgaatggggg	180
ctgccaggtc tctaaatca tgcctcatct tgaagcaca ggtaacctca cctctctcac	240
gctgtggglt tactttgatg aaaataccca ctttgttggc ctctctgaag ctataatgtc	300

&lt;210&gt; 241

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 241

gaaggtctggt gctgaggtct ctgggtctgg aagaggaggt ctgttggagct ggaagccaga	60
cctcttctgga ggaacttcca gcagctatgt tgggtctctt gagggaatgc aacaaggctg	120
ctctcccatg tattggaaaa ctgcaactg gactraactg gaaggaaagt ctgctgccag	180
tgtgaagaac cagcctgagg tgacagaaac ggaagcaaac aggaacagcc agtctttct	240
tctctctct gtcatacggc ctctctcag catctctct tgtcaggggc ctaaaagggg	300

&lt;210&gt; 242

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 242

ccagaggtcct gggatgcaac caatcaactt gtttcacgtg acttttatca ccatacaatt	60
tgtggcatct cctcattttc tacattgtag aatcagaggt ytaaatataat gtatatcgat	120
gtcttcaaga atatatcatt cctttttcac tagaacctat tcaaaatata agtcaagaa	180
cttaatatca acaaatatat caagcaaat ggaaggcaga ataactacca taatttagta	240
taagtaccca aagttttata aatcaaaaag cctantgata accattttta gaattcaatc	300

&lt;210&gt; 243

&lt;211&gt; 302

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 243

aggtaagttc cagtctggag ctcaaaagat ctggatcgag cataggctca tgcagacat	60
ggtygccccaa gctatgaat cagagggagg ctccatctgg gcctgtaaaa actatgatgg	120

tgacgtgcag tgggactcty tggcccaagg gtatggctct ctgggcatga tgaccagcgt 180  
 gctggtttgt ccaqatggca agacagtga agcagaggct gccacggga ctgtaccgg 240  
 tcaactaccg atgtccaga aaggacagga gacgtccac aatcccatg cttrcatttt 300  
 t 301

&lt;210&gt; 244

&lt;211&gt; 300

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 244

gctggtttgc aagaatgaaa tgaatgattc tacagctagg acttaacctt gaaatggaaa 60  
 gtcatgcaat cccatttgcg ggatctgtct gtgcacatgc ctctgtagag agcagcattc 120  
 ccagggaacct tggaaacagt tgacactgta aggtgttgc tcccaagac acatcctaaa 180  
 aggtgttcta atggtagaaa cgtcttccct ctttatggc cctcttatt tatgtgaaac 240  
 actgtttgtc ttctgtgtat cttttttaa ctgtaaagt caattgtga aatgnatgc 300

&lt;210&gt; 245

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 245

gtctgagtat ttaaaatgtt attgaattta tccccaacca atgttagaag agaagagggt 60  
 tatatctta gataaaaaat gaggtgeatt actatccatt gaattcatgc tcttagaatt 120  
 aagggcagga gatattgtca ttaatgtara ctccaggaca cttagagata gcagccctat 180  
 gttttcaag agcagagatg caattaaata ttgttagca tcaaaaaggc caatcaatgc 240  
 agctaataaa atgaagacc taatttctaa agcaattctt tatnatttc aaagttttaa 300  
 g 301

&lt;210&gt; 246

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 246

ggctcgtcct acaatgcctg ctctctgaaa gaagtcggca ctctctagaa tagctaaata 60  
 acctgggctt attttaaaga actatttcta gctcagattg gttttcctat ggctanaata 120  
 agtgccttct gtgaaaatta aataaaacag ttaatttcaa gccctgatat atgttaccac 180  
 taacaatcat actaatata tttgaagta caaagtctga catgctctaa agtgacaacc 240  
 caaatgtgtc ttacnaaaca cgttctaac aaggtatgct ttacactacc aatgtagana 300  
 c 301

&lt;210&gt; 247

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 247

aggtccttct gcagggtcca tggatcagag ctcaaactgg agggaaaggc atttcgggta 60  
 gcttaaggag gcgactggcg gtagcacaac caagggaaggc aaggttgttt cccccacgcc 120  
 gtgtcctgtg ttccgggtcg acacacaatc ctcatgggaa caggatcacu catgcgctgc 180  
 ccttgatgat caaggctggg gctcaagtgg attaaggag gcaagttctg ggttcttgc 240  
 cttttcaaac catgaagtca ggtctgtat ccttcttct cctaactgat attctaacta 300  
 a 301



<210> 248  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 248  
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 acaggaagaa agtgggttgg aagacagcca aagaaataaa agcagattaa attgtatcag 180  
 gtacattcca gcctgttggc aartccataa aaacatttca gattttaate ccgaatttag 240  
 ctaatgagac tggatttttg ttttttatgt tgtgtgtcgc agagctaaaa actcagttcc 300  
 c 301

<210> 249  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 249  
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 ccttgargct gctgttctcc ccgaaaaacc cgaccgacct ccgugatctc cgtcccgccc 120  
 ccagggagac acagcagtga cttagagctg gtcgcaact gtgctcctt cctcaccgac 180  
 catcgtaatg aatcttcttg aaaaattaat caccatcct ttcaagattct ggatggaaag 240  
 actgaatctt tgaactragaa ttgtttgctg aaaaagatga tgtgacttcc ttagtcaatt 300  
 a 301

<210> 250  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 250  
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 cttatcttta ttggcttgat aaacataatt atttctaaca ctagcttatt tccagttgac 120  
 cataagcaca ccagctacttc tctctggctg gaatagtaaa ctgaagtatg gtacatctac 180  
 ctaaaaguct actatgtgga ataatacata cttaatgaatg attacatgat ttaaagacta 240  
 caataaaacc aaacatgctt ataacattaa gaaaaacaa aaagatacat gattgaaacc 300  
 a 301

<210> 251  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 251  
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 ggcaggggtc ctcaaaaatg ccactgtcac tggcaggaaa tgcctctgag cagtacacct 180  
 cattgggata aatgaaaagc ttcaagaaat ctccaggttc actctcttga aggcccgga 240  
 cctctggagg ggggcagtgg aatcccagct ccaggacgga tccctgtcga aagatatcct 300  
 c 301

<210> 252  
 <211> 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 252

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ttttctacat tctagaatca agagtgttaa taatgtata tggatgtctt caagaaatata	120
tcattctttt ttcactggga acccattcaa atataagtc aagaatctta atatcaaca	180
atatatcaag caacttggaa ggcagaatca ctaccataat ttagtataag taccacaagt	240
tttataatc aaaagcccta atgataacca tttttagat tcaatcatca ctgtagatc	300
a	302

&lt;210&gt; 253

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 253

ttccctaaga agatgttact ttgttgggtt ttgttccccc tccatctega ttctgtacc	60
caactaaaaa aaaaaaataa agaaaaaatg tgcctgcgtc tgaanaataa ctctctagct	120
tggtctgatt gttttcagac cttaaaatat aaacttgttt cacaagcttt aatccatgtg	180
gatttttttt cttagagAAC cacaacaacat aaaaggagca agtcggactg aatactgtt	240
tccatagtgc ccacagggta ttcctcacat ttctccata ggaanaatgct tcttcccaag	300
g	301

&lt;210&gt; 254

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 254

cgctgcgctt ttccttggg ggaaggggcaa ggcagagggg ggtccaagtg cagcacgagg	60
aacttgacca attccttga agcgggtggg ttaaaccttg tnaatggga caaaatcccc	120
craaatctct tcatctacc ctgggtggact cctgactgta gaattttttg gttgaaacaa	180
gaaaaaaata aagcttctggc ctcttcaagg ttgcttaaca ggtactgaaa gactgggctc	240
acttaaatcg agccaggaaa agctgcagat ctattaatgg gctgtctagt gtgcagtgcc	300
t	301

&lt;210&gt; 255

&lt;211&gt; 302

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 255

agcttttttt ttcttttttt tttttttttt ttcattaaaa aatagtgttc ttattataa	60
attactgaaa tgtttttttt ctgaatataa atataaatat gtgcaaagtt tgacttggat	120
tgggattttt ttgagttctt caagcatctc cttaatacct caagggtctg agtagggggg	180
aggaaaaggg actggagggtg gaatcttcat aaaaaacaa agtgattgag gcagattgta	240
aacattatta aaaaaaaaga aacaaacaaa aanaatagaa aaaaaaacac cccaaacac	300
aa	302

&lt;210&gt; 256

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(301)  
 <223> n = A,T,C or G

<400> 256  
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 aggacccctcc tccccacacc tcaatccacc aaaccatcca taatgcaccc agataggccc 120  
 acccccacaaa gcctgggacac cttgagcaca cagttatgac caggacagac tcatctctat 180  
 aggcacaaatag ctgctggcaa actggcatca cctggcttctg ggggatgggg gggcaagtgc 240  
 gtggcctctc ggcttgggta gcaagaacat tcagggttagg cctaagttan tctgtttagt 300  
 c 301

<210> 257  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 257  
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 tcccactta tttttgtctt tcaatctgc aggccttaga agaggcttac ctgcctccag 120  
 tottacctag tccagtctac cccctggagt tagaatggcc atcctgaagt gaaaagtaat 180  
 gtccacttcc tcccttcagt gatttcttctg agnagtgcga atccctgaat gccaccaaga 240  
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 c 301

<210> 258  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(301)  
 <223> n = A,T,C or G

<400> 258  
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 agggggcccaag ccaccaggcg cagaagcaag ataaacagta ggctcaagac cagagccacc 120  
 cccagggcag caagaatcca ataccaggac tgggcaaat cttcaaagat cttaaccatg 180  
 atgtctcggg cattgaggct gtcaataana cgtgatccr ctgctgtatg gtggtgtcat 240  
 tgggtgatccc tgggagcgcc ggtggagtaa cgttggctca tggaaagcag cgtccacaac 300  
 c 301

<210> 259  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(301)  
 <223> n = A,T,C or G

<400> 259

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tcatatatgc aaacsaatgc agactangcc tcaaggcagag actaaaggac atctcttggg      60
gtgtcctgaa gtgatttggg cccctyaggg cagacaccta agtaggaate ccagtgggaa      120
gcaaagccat auggaagccc aggatccctt gtgatcagga agtgggcccag gaaggctctgt      180
tccagctcac atctctcttg catgcagcac ggaccyyatg cgcgccactgg gtcttggctt      240
ccctcccatc tttcaagca gtgtccttgt tgagccattt gcaccccttg ctccagggtg      300
c

```

&lt;210&gt; 260

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 260

```

ttttttttct ccttaaggaa aaaggaaggaa caagtctcat aaaaaccadct aaqcaatggg      60
aagggtgtctt aacttgaaaa agattagggag tcartgggtt acaagttata attgaatgaa      120
agaactgtaa cagcracagt tggcraatttc atgcraatgg cagcaaacaa caggattaac      180
tagggcaaaa taataaagtg tgtggaagcc ctgataaagt cttaataaac agactgattc      240
actgagacat cagtaacctg ccgggggggc gctcgagccg aattctgcag atatccatca      300
c

```

&lt;210&gt; 261

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 261

```

aaatattcga gaaatccctg taactaatgt gtctccataa aaggctttga actcagtgaa      60
tctgcttcca tccacgattc tagcaatgac ctctcggaca tcaagctcc tcttaaggct      120
agraccaact attccatcac attcatcagc aggaataaaa ggctcttcag aaggttcaat      180
ggtagacatc aatttcttct gataatttag attcctcaca accttctcag ttaagtgaag      240
ggcatgatga tcatcnaaag cccagtggtc acttactcca gactttctgc aatgaagatc      300
a

```

&lt;210&gt; 262

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 262

```

gaggagagcc tgttacagca tttgtaagca cagaatactc caggagtatt tgttaattgtc      60
tgtgagcttc ttgcccgaag tctctcagaa atttanaaag atgcaaatcc ctgagtccac      120
cctagacttc ctaaacacaga tctctcgggg ctggaaacct gcactctgra tttgtaatga      180
gggctttctg gtgcacacct aattttgtgc atctttgccc taaatcctgg attagtcccc      240
catcattacc cccacattat aatgggatat attcagagca gatactctcc agcaaaagaat      300
c

```

&lt;210&gt; 263

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 263

tttagcttgt	ggtaaatgac	tcacaaaact	gattttaaaa	tcaagttaat	gtgaattttg	60
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ttcttagtat	tatttatggc	aaataggctc	ttaccacttg	caataaactg	gccacatcat	180
taatgaactga	cttccagta	aggctctcta	aggggtaaqt	angaggatcc	acaggatttg	240
agatgctaag	gccccagaga	tcgttcgata	caacctcttc	attttcagag	gggaaatgg	300
g						301

&lt;210&gt; 264

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 264

aaagacgtta	aaccactcta	ctaccacttg	tggaactctc	aaagggtaaa	tgacaaaacc	60
aatgaatgac	tctaaaacon	atctttccat	ttaatggctt	gtagacata	aaanaacaaq	120
gtggatagat	ctagaattgt	aacattttca	gaaaacvata	acatttgaca	gatgggnaag	180
ctcaattata	gatgcacagt	tataactaaa	ctaactatagc	agtaaaagaa	tacatttcac	240
accttctata	caaattcaat	atcttggctt	gaggacatcc	acaaaatgta	tcacgtgcac	300
a						301

&lt;210&gt; 265

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 265

tgrccaaagt	atgtgtaagt	gtatccgcac	ccagaggtaa	auctacactg	tcattcttgt	60
cttcttgtga	cgcagtattt	ctctcttggg	gagaagccgg	gaagctctct	cctggctcta	120
catattcttg	gaagtctcta	atcaactttt	gttccatttg	tttcatttct	tcaggagggg	180
ttttcagttt	gtcaacatgt	tctctaaaca	cacttgccca	tttctgtaaa	gaatrcaaag	240
cagtcraagg	ctttgacatg	tcaacaacca	gcataactag	agcctccttc	agagatacgg	300
c						301

&lt;210&gt; 266

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 266

taccgtctgc	ccttccctcc	atccaggcca	tctgggaatc	tcattgggtc	ctcctattcg	60
acaccagatc	actctttcct	ctarccacag	gcttgctatg	agcaagagac	acaacctcct	120
ctcttctgtg	ttccagcttc	tttccctgtt	cttccacccc	cttaayttct	attcctgggg	180
atagagacac	caatacccat	aacctctctc	ctaagctctc	ttataaccca	gggtgcacag	240
caccgactcc	tgacaactgg	taaggccaat	gaactgggag	ctcacagctg	gctgtgcctg	300
a						301

&lt;210&gt; 267

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 267

aaagagcaca	ggcagctca	gccctgacctg	gccatctaga	ctcagcctgg	ctccatgggg	60
------------	-----------	-------------	------------	------------	------------	----

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gttttcagtg ctgagtcacat ccaggaaagag ctcacctaaga ccttctgagg ctgaatcttc 120
atcctcacag gcagcttctg agagcctgat attcctagcc ttgatgggtct ggagtaaaagc 180
ctcattctga ttctctctct tcttttcttt caagttgget ttcctcacat cctctctgtc 240
aattcgttc agcttgtctg ctttagccct catttcaga agcttcttct ctttggcatt 300
t 301

```

&lt;210&gt; 268

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 268

```

aatgtctcac tcaactactt ccagcctac cgtggcctaa ttctgggagt tttcttctta 60
gatcttggga gagctggctc ttctdaggag aaggagggaag gacagatga accttggatc 120
tcgaagaggga agtctaattg aagtaattag tcaacggtec ttgtttagac tcttgggata 180
tgctgggtgg cttagtgagc ctttttggag aaagcaagta ttattcttaa gtagtaacca 240
cttcccatgg ttctacttct taccatcatc aattgtatat catgtattct ttggagaact 300
a 301

```

&lt;210&gt; 269

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 269

```

taacaatata cactagctat ctttttaact gtccatcatt agcaccaatg aagattcaat 60
aaaattacct ttattcacac atctcaaaac aattctgcaa attcttagtg aagtttaact 120
atagtcacag accttaata ttccacattgt tttctatgtc tactgaaat aagttcacta 180
ctttcttgga tttcttttau aaatcttat taaaattctt ggtattatca cccccaatta 240
tacagttagc caaccacctt atgtagcttt tacatgatag ctctgtagaa gtttcacatc 300
t 301

```

&lt;210&gt; 270

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 270

```

cattgaagag cttttgcgaa acatcagaac acaagtgcct ataaaattaa ttaaggcetta 60
cacaagaata catattctt ttatttctaa ggagttaaac atagatgtag ctgatgtgga 120
gagcttgctg gtgcagtgc ttttggata cactattcat ggccgaattg atcaagtcaa 180
ccaartcctt gaactggatc atcagaagaa ggggtgggca cgatatactg cactagataa 240
tggaccaacc aactaaattc tctcaccagg ctgcatcagt aaactggctt aacagaaaac 300
a 301

```

&lt;210&gt; 271

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 271

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aaaagggtct ctaagatca acaattttaa taatatctg atagAACatt cttctcatc 60
tttatagctc atctttaggg ttgatattca gttcatgctt cctttgctgt tcttgatcca 120
gaattgcaat cacttcatca gctgtatctt gctccaattt tctataaagt ggggtccaagg 180
tgaaccacag agccacagca cactctttt ccttggtgac tgccttcacc ccatgagggt 240
tctctcctcc agatganaac tgatcatgca cccacatttt gggttttata gaagcagtc 300
c 301

```

&lt;210&gt; 272

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 272

```

taattgctc agccacagat aacaccaatc aaatggaaca atcactgtc ttcaantgtc 60
ttatcagaa accaaatgag cctggaaatc tcataatcc taaacatgct gtttttagga 120
tcaataatt cctcatgat agcraagaaa aattctttgc gacccctcc tgcattcaca 180
gcctcttctc caacaaatc aaccttgagt ggtctctctt aatctatgtt ctttgttttc 240
ctaaggactt ccatgcatc cctaraata tttctctac gacccactag aattagcag 300
g 301

```

&lt;210&gt; 273

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (301)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 273

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acatgtgtgt atgtgtatct ttgggaaan aanaagacat ctgttttctt attttttttg 60
agagangctg ggacatggat aatcacwtaa ttgtctayta tyactttaat ctgactygaa 120
gaaccgtcta aaataaaaat ttaccatgtc dtatattcct tatagtatgc ttatttcacc 180
tcttctctgt ccagagagag tatcagtgc ananatttma gggcgaamac atymattggg 240
gggactctty ttacngagm aucttgccc ggcgcctcg makengantt ccgcsananc 300
t 301

```

&lt;210&gt; 274

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (301)

&lt;223&gt; n = A,T,C or O

&lt;400&gt; 274

```

cttatatact ctttctcaga ggcaaaagag gagatgggtc atgtagacaa tcttttgagg 60
aacagtaaat gattattaga gagaangaat ggaccaggga gacagaaatt aacttgtaaa 120
tgattctctc tgggaatctga atgagatcaa gaggccagct ttagtctgtg gaaaagtcca 180
tctaggtatg gttgcattct cgtcttcttt tccgcagtag ataattgaggt aaocgaaggc 240
aattgtgctt cttttgataa gaagctttct tggatcatatc aggaatttcc aganaagtc 300

```

C

301

<210> 275  
<211> 301  
<212> DNA  
<213> Homo sapien  
  
<220>  
<221> misc\_feature  
<222> {1}...{301}  
<223> n = A,T,C or G

<400> 275  
tcggtgtcag cagcagctgg cattgaacat tgcgaatgtgg agcccaaac ccagaaaatg 60  
gggtgaaatt ggcacaacttt ctatcaactt atgttggcua ttttggcacc aacagtaagc 120  
tggcccttct aataaaaaga aattgaaagg tttctacta aacgggaatta agtagtggag 180  
tcaagagact cccagggctc agcgtactct cccggggcgg cgctcgaaag cgaattcttc 240  
agatctccat cacactggcg gncgctcgan catgcactta gaaggnccaa ttccgacctat 300  
a 301

<210> 276  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 276  
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ttatcatgtg acttctaatt agaaatgta tccaaagca aacagcaga tatacaaat 120  
taaggggaca gaagatagac actaacagat aaggcaactt atacattgag aatccaaatc 180  
caatacatit aacatttgg gaatgaggg ggacaaatgg aagccagatc aaatttgtgt 240  
aaaactatit agtaagtitt ccttgcttca tgtctgagaa ggtctctctt caatggggat 300  
g 301

<210> 277  
<211> 301  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> {1}...{301}  
<223> n = A,T,C or G

<400> 277  
tttgttgatg tcagkatttt attacttgcg ttatgagtgc taccctggga aattctaaag 60  
atacagagga cttggaggaa gcagagcaac tgaatttaat taaaagagag gaaaacattg 120  
gaatcatggc actcctgata ctctcccaa tcaaacctct caatgcccca cctcgtct 180  
caccatagtg gggagactaa agtggccacg gatttgcctt anggtgcag tgcgttctga 240  
gttctctgtc gattacatct gaccagttct ctttttccga agtctntccg tccaatcttg 300  
c 301

<210> 278  
<211> 301  
<212> DNA  
<213> Homo sapien



<220>  
 <221> misc\_feature  
 <222> (1)...(301)  
 <223> n = A,T,C or G

<400> 278

taccactaca ctcacagcctg ggcacacagag caagacctgt ctcaaaagcat aaaatggaat	60
aacatataaa atgaaacagg gaaaatgaag ctgacanttt atggaagcca gggcttgtca	120
cagtctctac tgttattatg cattacctgg gaatttatat aagcccttaa tcaataatgcc	180
aatgaacatc tcatgtgtgc tcacaatggt ctggcactat tataagtgtc tcaacagggtt	240
tatgtgtctc tcgttaacttt atggantagg tctcgyccg cgaacacgct aagccgaatt	300
c	301

<210> 279  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1)...(301)  
 <223> n = A,T,C or G

<400> 279

aaagcaggaa tgacaaaagct tgcttttctg gtatgtttcta ggtgtattgt gacttttact	60
gttatattaa ttgccaatat aagtaaacat agattatata tgtahagtgt ttcaaaaagc	120
ttagaccttt accttccagc caccaccag tgcttgatar ttcaagagtea gtcattgggt	180
atacatgtgt agttccaaag cacataagct agaanaanaa atatttctag ggagcactac	240
catctgtttt cacatgaat gccacacaca tagaactcca acatcaatt cattgcacag	300
a	301

<210> 280  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 280

ggtactggag ttttctctcc ctgtgaaaac gtaactactg ttgggagctga attgaggatg	60
tagaaaggtg gtggaaccaa attgtggtca atggaatatg gagaatatgg ttctcaactct	120
tgaganaaaa acctaaagatt agcccaggta gtgacctga acttcagttt ttctgcctgg	180
gtttgatata gtctagggtt ggggttagat taagatctaa attacatcag gacaaagaga	240
cagactatta actccacagt taattaaagg ggtatgttcc atgtttattt gttaaagcag	300
t	301

<210> 281  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 281

aggttcaaga aggggaatgg gaaagagctg ctgctgtggc attgttcaac ttggatatcc	60
gccgagcaat ccaaatcctg aatgaagggg catcttctga aaaaggagat ctgaatctca	120
atgtggtagc aatggcttta tgggttata cggatgagaa gaacttccct tggagagaaa	180
tgtgtagcac actgcgatta cagctaaata adccgtattt gtgtgtcatg ttgtcatttc	240

tgacaaagtga aacaggatct tacgatggag ttttgtacga aaacaaagtt gcagtacctc 300  
g 301

<210> 282  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 282  
caggtaactac agauttaaaa tactgacaag caagtagctt ctggcggtgc acgaattgca 60  
tcacgaarcc aaaaatttaag aatttcaaaa agacattttg tgggcacctg ctagcacaga 120  
agcgacagaag caaagcccag gcagaacctat gctaaccctt cagctcagcc tgcacagaag 180  
cgacagaagca aagcccaagg agaaccatgc taaccttaca gctcagccctg cacagaagcg 240  
cagaagcaca gccacggcag aacatgctta ccttacagct caacctgac agaaagcag 300  
a 301

<210> 283  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 283  
atctgtatc ggcagacaaa ctttatarag tgttagagag tgagcgaag gatgcaaaag 60  
cacttggagg gctttataat aatctgctgc ttgaaaaaa aatgtgtag ttgatactca 120  
gtgcatctcc agacatagta aggggttgc ctgaccaatc aggtgatcat tttttctatc 180  
acttcccagc ttttatgcaa aaatttctgt aatttctata atggtgatat gcatcttta 240  
ggaaacatat acattttcaa aaatctattt tatgttagaa ctgacagacg aatttgcctt 300  
g 301

<210> 284  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 284  
caggtaacaa acgctattaa gtggcttaca atttgaacat ttgtggctct catctacttt 60  
gcttctgtgt tgggcaaaag acatctctcc ctaaaatat attaccaaga aaagcaagaa 120  
gcagatttag tttttgacaa aacaaaacag ccaaaagggg gctgacctgg agcagagcat 180  
ggtgagaggc aaggtcatgag agggcaagtt tgcttgggac agatctgtgc ctactttatc 240  
actgggttaa aagaaaacaa agttcattga tgtcgaaggc tatatacagt gttcagaatt 300  
a 301

<210> 285  
<211> 301  
<212> DNA  
<213> Homo sapien

<220>  
<221> misc\_feature  
<222> 11... (301)  
<223> n = A,T,C or G

<400> 285  
acatcaccat gatcggtacc cccaccatt atacgttgha tgtttacata aatctctctc 60  
aatgacatct agtgttttaa aaaaaatact gaaaaattct tctgcctccc aatctctaac 120

CAGGAAAGCA AATGCTATTT ACAGACCTGC AAGCCCTCCC TCAACCAAAA CTATTTCTGG 180  
 ATCAAAATATG TCTGACTTCT TTTGAGGTCA CACGACTAGG CAATGCTAT TTACGATCTG 240  
 CAAAAGCTGT TTGAAGAGTC AAGGCCCCCA TGTGAACACG ATTTCTGGAC CCTGTAAACG 300  
 T 301

<210> 286

<211> 301

<212> DNA

<213> Homo sapien

<400> 286

TACCAGTCCA TTCCAGCTTG GGTGACAGAG TGAGACTCCG TCTCCAAAAA AACTTTGCT 60  
 TGTATATTAT TTTTGCCTTA CAGTGGATCA TTCTAGTAGG AAGGACAGT AAGATTTTCT 120  
 ATCAAAATGT GTCATGCCAG TAAGAGATGT TATATCTTT TCTCATTTCT TCCCACTCCA 180  
 AAAATAAGCT ACCATATAAG TTATAAGTCT CAAATTTTCT CCTTTTCTA AAGTGTGATT 240  
 GTTCTGTTCT ATTGTGTATG CTTCATCACC TATATTAGG AATTCCTAT TTTTCCCTTG 300  
 T 301

<210> 287

<211> 301

<212> DNA

<213> Homo sapien

<400> 287

TACAGATCTG GGAAGTAAAT ATTAAAAATG AGTGTGGCTG GATATATGGA GAAGGTTGGG 60  
 CCCAGAGGGA AGGTAGAGAT CAGATATTAC AACAGCTTCT TTTTGGGGT TAGAATATG 120  
 AAGTGAATTT GTTATGAACG CACAGTTTAG GCAACAGGAG CAGAACTCTG ACCCTCTGCT 180  
 CCGTGGTTAT CTCTCTCCCA GTTTGGCTGC CTCATGTTAC CACAGTATTC CATTTCTTT 240  
 GTTGCATGTC TTGTGAAGCC ATCAAGATTT TCTCTCTCTG CTCTCTCTCA TTGGTAATGC 300  
 T 301

<210> 288

<211> 301

<212> DNA

<213> Homo sapien

<400> 288

GTACACCTAA CTGCAAGGAC AGCTGAGGAA TGTAACTGGC AGCCGCTTTT AAGAAGTAG 60  
 AGTCAATAGG AAGACAAATT CCAGTTCACG CTCAGTCTGG GTATCTGCAA AGCTGCAAAA 120  
 GATCTTTAAA GACAATTTCA AGAGAATATT TCTTAAAGT TGGCAATCTG GAGATCATAC 180  
 AAAAGCATCT GCTTTTCTGA TTAAATTTAG CTCATCTGGC CACTGGAAGA ATCCAAACAG 240  
 TCTGCCTTAA TTTTGGATGA ATGCATGATG GAAATTCAT AATTTAGAAA GTTAAAAAAA 300  
 A 301

<210> 289

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> mirc\_feature

<222> (1) ... (301)

<223> n = A, T, C or G

<400> 289

```

ggtaactgtg ttecatgtta tgtttctaca cattgctacc ttagtgctcc tggaaactta      60
gtttttgatg tctccaaata gteracobbc abttaactct ttgaaactgt atcatctttg      120
craagtaaga gtggtggcct atttcagctg ctttgacaaa atgactggct cctgacttaa      180
cgttctataa atgaatgtgc tgaagcaaaag tgcctatggg ggccggcgaan aagagaaaga      240
tgbgttttgt tttggactct ctgtggtccc ttecaatgct gtgggtttcc aaccagngga      300
a                                          301

```

```

<210> 290
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> {1}...{301}
<223> n = A,T,C or G

```

```

<400> 290
acactgagct cttcttgata aatataraga atgcttggca tatacaagat tctatactac      60
tgactgatct gtctttttct ctacacagctc ttaccccaaa aagcttttcc acctaaagtg      120
ttctgacctc cttttctaat cacagtaggg ctgagggcag anccacctac aatgaacatg      180
gagttctatc aagaggcaga aacagcacag aatcccagtc ttaccattcg ctagractgc      240
tgccttgaaac aaaaacattt ctccatgtct catcttcttc atgcttcaag taacagttag      300
a                                          301

```

```

<210> 291
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 291
caggtacca a tttcttctat cctagaaaca tttcatttca tgttgttgaa acataacaac      60
tatatcagct agattttttt tctatgtttt acctgctatg gaaaacttga cacactctgc      120
tttactcttt tgtttatagg tgaatcacaa aatgtatttc tatgtattct gtagtccaat      180
agccatggct gtttacttca ttttaatttat tttagctaaa gacattatga aaaggcctaa      240
acatgagctt cacttcccca ctaccccaatt agcatctgtt atttcttaac cgtaatgcct      300
a                                          301

```

```

<210> 292
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> {1}...{301}
<223> n = A,T,C or G

```

```

<400> 292
acrtttttagt agtaatgtct aataataaat aagaaatcaa ttttataagg tccatatagc      60
tgtattaat aactttcagg tttaaaagat aaaaatccat catttcaat gtgggtatcc      120
aaaaccaaaag natataaccg aaaggaaaana cagatgagac ataaaatgat ttgcagatg      180
ggaaatatag tascctyatga atgttnatta aattccagtt ataatagtgg ctacacactc      240
tcactacaca cacagacccc acagtcctat atgcccacaa cacatccca taacttgaaa      300
a                                          301

```

<210> 293  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 293  
 ggtaccaagt gctygtgcca gcctgttacc tgtttctcact gaaaagtcctg gctaattgctc 60  
 ttgtgtagtc acttcttgatt ctgacaaatca atcaatcaat ggcctagagc actgactgtt 120  
 aacacaaacg tcaactagcaa agtagcaaca gctttaagtc taantacaa gctgttctgt 180  
 gtgagaattt tttaaaaggc tacttgatata ataacccttg tcatctttta tgaactcgg 240  
 ccgcgaccac gctaagccga attctgcaga tatecatcac actggcggcc gctcggacat 300  
 g 301

<210> 294  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
 <222> (1) ... (301)  
 <223> n = A, T, C or G

<400> 294  
 tgaccataaa caatatacac tagctatctt ttttaactgtc catcattagc accaatgaag 60  
 attcaataaa attaccttta ttcagacatc tcaaaacat tctgcnaatt cttagtgaag 120  
 ttttaactata gtcacagann ttaantattc acattgtttt ctatgtctac tgaataaag 180  
 ttcactactt ttctgggata ttctttacaa aatcttatta aaatccttgg tattatcacc 240  
 ccaattata cagtagcaca accacettat gtatgtttta catgatagct ctgtagaggt 300  
 t 301

<210> 295  
 <211> 305  
 <212> DNA  
 <213> Homo sapien

<400> 295  
 gtactctttc tctccctcc tctgaattta attctttcaa ctctgaattt gcaaggatta 60  
 cacatttcac tgtgatgtat attgtgttgc aaaaaaaa gtgtctttgt ttaaaattac 120  
 ttggtttgtg aatccatctt gctttttccc cattggaact agtcattaac ccattctctga 180  
 actggtagaa aaacrtctga agagctagtc tatcagcacc tgacagggtga attggatggg 240  
 tctcagAAC atttcaccca gacagcctgt tcttatcctg ttaataaaat tagtttgggt 300  
 tctct 305

<210> 296  
 <211> 301  
 <212> DNA  
 <213> Homo sapien

<400> 296  
 aggtactatg ggaagctgct aaaaataaat ttgatagtaa aagtatgtaa tgtgctatct 60  
 caactagtag taaactaaaa ataaactgaa actctatgga acctgaagtt attttccttg 120  
 attaaataga attaataaa ccaataggag aaacatgaaa ccatgcaatc tactatcaac 180  
 tttgaaaaag tgattgaacg aaccacttag ctttcagatg atgaacactg ataagtcatt 240

tgtcatttct ataaatttta aattctgtta ataatgatggc ctacaggagag gaaaaagggg 300  
c 301

<210> 297  
<211> 300  
<212> DNA  
<213> Homo sapien  
  
<220>  
<221> misc\_feature  
<222> (1)...(300)  
<223> n = A,T,C or G

<400> 297  
artgagtttt aactggacgc caagcaggca aggtcggag gtlttgctct ctttgtgcta 60  
aagggttttg aaaccttgaa ggagaatcat ttgacaaga agtachtazg agtctagaga 120  
acaaagangt gaaccagctg aaagctctcg ggggaanctt acatgtgttg ttaggcctgt 180  
tccatcattg ggagtgcact ggccatccct caaaatttgt ctgggctggc ctgagtggtr 240  
accgcacctc ggccgcgacc acgctaagcc gaattctgca gatattccatc acactggcgg 300

<210> 298  
<211> 301  
<212> DNA  
<213> Homo sapien  
  
<220>  
<221> misc\_feature  
<222> (1)...(301)  
<223> n = A,T,C or G

<400> 298  
tatggggttt gtcacccaaa agctgatgct gagaaaggcc tccctggggc ccttcccgcg 60  
ggcatctgag agacctggty tccagctgtt tctggaaatg ggtccuagtg ccgcccggctg 120  
tgaagctctc agatcaatca cgggaagggc ctggcgggtgg tggccacctg gaaccacccct 180  
gtcctgtctg ttacalctc actaycaggt ctctcttgg cattacnatr tgttccccca 240  
caacagtgac ctgtgcattc tgcgttggn cgcgtgtgct gcaggtgget ctccagcagg 300  
t 301

<210> 299  
<211> 301  
<212> DNA  
<213> Homo sapien

<400> 299  
gttttgagac ggagtttccac tcttggtgac cagactggac tgcattggca gggctctctgc 60  
tcactgcacc ctctgcctcc caggttcagag caattctcct gcctcagcct ccagagtagc 120  
tgggattgca ggctcagccc accataccra gctaattttt ttgtattttt agtagagacg 180  
gagtttcgcc atgtcggcca gctggctctca aartcctgac ctcaagcgac ctgcctgcct 240  
cggctcccca aagtgtctga attataggca tgagtcaaca cggccagcct aaagatatct 300  
c 301

<210> 300  
<211> 301  
<212> DNA  
<213> Homo sapien

## &lt;400&gt; 300

attcagttttt	atttgcctgac	ccagtatctg	taaccaggag	tgcacaaaa	tcttgcctga	60
tatgtccac	accactggg	aaaggctcc	acctggctac	ttctctatc	agctgggtca	120
gttgcatcc	acaaggttct	cagcctaag	agtttacta	cctgacagtc	tcaaaactta	180
gtaaagcaag	accatgacat	tccccacgg	aaatcagagt	ttgcccacc	gtcttgttac	240
tataaagcct	gertctaaca	gtccttgcct	cttcacacca	atcccgagcg	catcccccat	300
g						301

## &lt;210&gt; 301

## &lt;211&gt; 301

## &lt;212&gt; DNA

## &lt;213&gt; Homo sapien

## &lt;400&gt; 301

ttaattttt	gagaggataa	aaaggacaaa	taattctagaa	atgtgtcttc	ttcagtcctgc	60
agaggaccc	aggtctccan	gcaaccacat	ggtcaaggyc	atgaataatt	aaaagtgggt	120
gggaactcc	aaagacccctc	agagctgaga	caccacaaac	agtgggagct	cacaaagacc	180
ctcagagctg	agacacccac	aacagctggga	gttcacaaag	accttcagag	ctgagacacc	240
cacaacagca	ctcgtttcag	ctgcccacatg	tgtgaataag	gatgcaatgt	ccagaagtgt	300
t						301

## &lt;210&gt; 302

## &lt;211&gt; 301

## &lt;212&gt; DNA

## &lt;213&gt; Homo sapien

## &lt;400&gt; 302

aggtacacat	ttagcttctg	gtaaatgact	cacuaaactg	attttaaaat	caagttaatg	60
tgaattttg	aaattactac	ttaattccta	ttcacantaa	caatggcatt	aagggttgac	120
ttgagttgg	tcttagctatt	atttatggta	aataggctct	taccacttgc	aaataactgg	180
ccacatcatt	adtgactgac	ttcccagtaa	ggctctctaa	ggggttaagta	ggaggatcca	240
caggatttga	gatgctaagg	ccccagagat	ogtttgatcc	aacctcttta	ttttcagagg	300
g						301

## &lt;210&gt; 303

## &lt;211&gt; 301

## &lt;212&gt; DNA

## &lt;213&gt; Homo sapien

## &lt;400&gt; 303

aggtaccaac	tgtggaaata	ggtagaggat	cattttttct	ttccatatca	actaagttgt	60
atatgttctt	ttgacagttt	aacaratctt	cttctgtcag	agattctttc	acaatagcac	120
tggctaattg	aactacrgct	tgcattgtta	aaatggctgt	ttgtgaaatg	atcataggcc	180
agtaacgggt	atgttttctt	aactgatctt	ttgctcgttc	caaagggacc	tcaagacttc	240
catcgatttt	atatctgggg	tctagaaaag	gagttaatct	gttttccctc	ataaattcac	300
c						301

## &lt;210&gt; 304

## &lt;211&gt; 301

## &lt;212&gt; DNA

## &lt;213&gt; Homo sapien

## &lt;400&gt; 304

acatggatgt	tattttgcag	actgtcacc	tgaatttgta	tttgcttgac	atlgcctaot	60
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```

tattagcttc agtttcagct taccraccttt ttgtctgcaa catgcaraaa agacagtgc 120
cttttttagtg tatcatatca ggaatcatct cacattgggt ttgtccattt ctggtgcagt 180
gactttcagc cacttgggtt aggtggagtt ggcacatagt ctccactgca aattactga 240
ttttcccttt gtaattaata agtgtgtgtg tgaagattct ttgagatgag gtatatatct 300
c 301

```

&lt;210&gt; 305

&lt;211&gt; 301

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(301)

&lt;223&gt; n - A,T,C or G

&lt;400&gt; 305

```

gungtacagc gtgggtcaagg taacaagaag aaaaaaagt gagtggcatc ctgggatgag 60
caggggggaca gacgtggaca gacacgttgt catttgctgc ttgtggtagg azaatgggag 120
taaaggaggga gaaacagata cnaaatctcc aactcagtat taaggatatt tcatgcttag 180
aatattggtt gaacaaaga tacattcata tggcaataaa ctaaccratg tggaaacaaa 240
ttctgggatt taagttggat accaangaaa ttgtattaaa agagctgttc atggaataag 300
a 301

```

&lt;210&gt; 306

&lt;211&gt; 8

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 306

Val Leu Gly Trp Val Ala Glu Leu

1

5

&lt;210&gt; 307

&lt;211&gt; 637

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 307

```

acaggggatg aagggaaaag gagaggatga ggaagcctcc ctggggattt ggtttgggac 60
ttgtgatcag gtggtctatg gggcttatcc ctacaaagaa gaatccagaa ataggggcac 120
attgaggaat gatacttgag cccaaagagc attcaatcat tgttttattt gccttmtttt 180
cacaccattg gtgagggagg gattaccacc ctggggttat gaagatggtt gaacacccca 240
cacatagcac cggagatatg agatcaacag ttctttagcc atagagattc acagccacaga 300
gcaggaggac gcttgacacac catgcaggat gacatggggg atgcgctcgg gattgggtgtg 360
aagaagcaag gactgttaga ggcaggcttt atagtaacaa garggtaggg caaactctga 420
ttccgtggg ggaatgtcat ggtcttgctt tactaagttt tgagactggc aggtagtga 480
actcattagg ctgagaacct tgtggaatgc acttgaccca scgatagag gaagtaggca 540
ggtagggagcc ttcccaagtg ggtgtgggac atatctggca agattttgtg gcactcctgg 600
ttacagatar tggggcagca aataaaactg aactcttg 637

```

&lt;210&gt; 308

&lt;211&gt; 647

&lt;212&gt; DNA

&lt;213&gt; Homo sapien



<220>  
 <221> misc\_feature  
 <222> {1}...(647)  
 <223> n = A,T,C or G

<400> 308

acgattttca	ttatcctgta	aatcgggtca	ctcaaggggc	caaccacagc	tgggagccac	60
tgtcagggg	agggttcata	tgggactttc	tactgcccac	ggttctatac	aggatataaa	120
ggngcctcac	agtatagatc	tggtagcaaa	gaagaagaaa	caaacactga	tctctttctg	180
craacccctc	gaccccttgg	aactcctctg	cccccttaga	acaaagcctac	ctaataatctg	240
ctagagaaaa	gaccacacaa	ggcctcaaa	gatctcttac	catgaagggtc	tcaactaatt	300
cttgggttaa	atgtgggttc	cacattaggt	tctgaatatg	gggggaagg	tcaatttgc	360
catttttgt	gtggatata	tcaggatgac	caggggcag	agcaggggc	tgttgcctt	420
gggaacacac	gctgagcata	taacataggt	ttatggggag	caaaacaaca	tcaaatgcac	480
tgtatcaatt	gncatgaaga	cttgagggac	ctgaatctac	cgattcatct	taaggcagca	540
ggacragttc	gagtggcaac	aatgcagcag	cgaatcaat	ggaaacaaca	gcatgattgc	600
aatgtccttc	ttttctctct	gcttctgaat	tgataaaagg	ggaccgt		647

<210> 309  
 <211> 460  
 <212> DNA  
 <213> Homo sapien

<400> 309

actttatagt	ttaggttgg	cattggaaa	aaaaaaagc	cagaacacaa	tgtgatagat	60
aatatgattg	gctgcacact	tcagactga	tgaatgatga	acgtgatgga	ctattgtatg	120
gagcacatct	tcagcaagag	ggggaaatac	tcactattct	tggccagcag	ttgtttgatc	180
accaaacatc	atgccagaat	actcagcaaa	ccttcttcagc	tcttgagaag	tcaaatgccg	240
gggggaattta	ttcctggcua	ttttaattgg	actccttatg	tgagagcagc	ggctacccag	300
ctgggggtgg	ggagcgaacc	cgtcactagt	ggacatgcag	tggcagagct	cctggtaacc	360
acctagagga	atacacaggc	acatgtgtga	tgccaagcgt	gacacctga	gcactcaaat	420
ctgtcttggc	tttgccttc	ggtgtgtaag	attctcaagt			460

<210> 310  
 <211> 539  
 <212> DNA  
 <213> Homo sapien

<400> 310

acgggaattta	tcaaatata	atagggaag	aagaaactc	aaatattata	ggcagaaatg	60
ctaaagggtt	tataatatgt	caggattgga	agaaggcatg	gataaagaac	aaagtctagt	120
tagggaagag	aaacacagaa	ggaagagaca	caataaaggt	cattatgtat	tctgtgagaa	180
gtcagacagt	aagatttgtg	ggaaatgggt	tgggttgttg	catggtatgt	attttagcaa	240
taatctttat	ggcagagaaa	gctaaaaatc	tttagcttgc	gtgaatgatc	acttgcctga	300
ttcctcaagg	taggcattgt	gaaggaggg	ttagaaggga	caagagacaa	atgaactgac	360
ctagatagaa	agccttagta	tactcagcta	ggaatagtga	ttctgagggc	acactgtgac	420
atgattatgt	cattacatgt	atggtagtga	tggggatgat	aggaagggaag	aacttatggc	480
atatctttcac	ccccacaaaa	gtcagttaaa	cattgggaca	ctaaccaatc	aggtonaga	539

<210> 311  
 <211> 526  
 <212> DNA  
 <213> Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(526)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 311

caaatttggag ccaatgacat agaattttac aaatcaagaa gcttattctg gggccatttc	60
ttttgacgtt ttctctaaac tactaaagag gcatctaatga tccataaatt atattatcta	120
catttacagc atttakkatg tgttcagcat gaaatattag ctacagggga agctaaataa	180
attaacatg gaataaagat ttgtccctaa atataatcta caagaagaat tctgatatttg	240
tttttcacaa gtgaagcatt ctctataaagt gtcataacct ttttggggaa acatagggaa	300
aaaatgggga aactctgaag ggtttttaagt atcttacctg aagctacaga ctccataacc	360
tctcttaca gggagctcct ggggccccta cagaatagag tggctgagat tcttgatcgc	420
acagcaagag ctctctacct aaaccccttc cctttttagt atctgtgat caagtataaa	480
agttctataa acgttagtnt acttatttta atccccaaag cacagt	526

&lt;210&gt; 312

&lt;211&gt; 500

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(500)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 312

ctctctctc cccacccct gactctagag aactgggttt ttcccragta ctcragcnat	60
tcatttctga aagcagttga gccactttat tccaaagtac actgcagatg ctcaaaactct	120
ccatttctct ttcccttcca cctgccagtt ttgctgactc tcaacttctc atgagctgtaa	180
gcattaaagg cattatgctt ctctcgattct gaagacaggc cctgctcatg gatgactctg	240
gcttcttagg azaatatctt tcttccaaaa ttagtaggaa ctctaaactt atccctcttt	300
tgcagatgtc tagcagcttc agacatttgg ttangaacc atgggaazaa aaaaaatcct	360
tgtcaatgag gtcttcttct taaaccanga ttcttatttg nctggatag aatatcagct	420
ctgaacgtgt ggtcaagatt ctctgtgttg antataggag aaatcagttt gctgaaaagt	480
tagtcttaat tatctatctg	500

&lt;210&gt; 313

&lt;211&gt; 718

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(718)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 313

ggagatttgt gtggtttcca gccgagggag accaggaaga tctgcatggt gggaaaggacc	60
tgatgataca gaggtagaaa ataagaaagg ctgctgactt taccatctga ggccacacat	120
ctgctgaat ggagataatt aacatcacta gaaacagcaa gatgacata taatgtctaa	180
gtagtgaat gtttttgca atctccagcc cttttaaata tccacacaca caggaaagcac	240
aaaagggaag ccagagatcc ctgggagaaa tggcgggocg ccatcttggg tcatcgatga	300
gcctcgccct gtgcctgntc ccgcttctga gggaaaggaa ttagaaaatg aattgatgtg	360
ttccttaaaag gatggcagga aaacagatcc tgttctggat attcatttga aonggatcac	420

agattttgaaa tgaagtcaca aagtgagrat taccoatgag aggaaaacag acgagaaaat	480
cttgatgggt cacaagacat gcaacaaaca aaatggata ctgtgatgac acgagcagcc	540
aaatggggag gagataccac ggggcagagg tcaggtattt ggcctgctg cctaaactgtg	600
cgttatacca atcatctca ttctaccct caaacaagct gtngaatac tgacttacgg	660
ttcttntggc ccacatttc atnateccac cctcctttt aannttant ccaantgt	718

&lt;210&gt; 314

&lt;211&gt; 358

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 314

gtttatttac attacagaaa aaacatcag agaatgtata ctatttcana tatatccata	60
cataatcana tatagctgta gtacatgttt tcattgggtg agattaccac aaatgcagg	120
caacatgtgt agatctcttg tcttattctt ttgtctataa tactgtattg ttagtccaa	180
gctctcggtg gtccagccac tgtgaacac gctcccttta gattaacctc gtggatgctc	240
ttgttgtatt gctgaactgt agtgccctgt attttgcttc tgtctgtgaa ttctgttct	300
tctggggcat tctctgtga tgcagaggac caccacacag atgacagcaa tctgaatt	358

&lt;210&gt; 315

&lt;211&gt; 341

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 315

taccacctcc ccgtgggac tgatgagccg catcaccatg gtcaccagca ccacgaaggc	60
ataggtgatg atgaggacat ggaatgggac cccagggatg gctgtccaa agagcgagt	120
gaccccatc ctgaagatgt ctggaacctc taccagcagg atgatgatg ccccaatgac	180
agtcaccagc tccccagca gccggataac gtccctaggg gtcacgtagg ctctctgaag	240
tagcttctgc tgtaagaggg tgtgtcccg ggggctctg cggctattgg tctgggctt	300
gagggggcgg tagatgcagc acatggctga gcatgatg t	341

&lt;210&gt; 316

&lt;211&gt; 151

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 316

agactgggca agactcttac gccccacact graatctggc ctgtgtgccc tatccattta	60
tgtgggcttt tctcgagttt ctgattataa acacactgg agcgatgtgt tgactggact	120
cattcagggg gctctggttg caatatctag t	151

&lt;210&gt; 317

&lt;211&gt; 151

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 317

agaactagtg gatcctaag aaataacctga aacatatatt ggcatttacc aatggctcaa	60
atcttcatct atctctggc ttaacctgg cctctgaggc tgcggccagc agatcccagg	120
ccagggctct gctcttgcga cactgtttg a	151

&lt;210&gt; 318

&lt;211&gt; 151

&lt;212&gt; DNA

<213> Homo sapien

<400> 318

```
actggtggga ggcgtgtt agttggctgt ttccagggg gtctttcggg gggacctctt    60
gtgcagact ggagtgctt tattcttggc gggagaccgc acattccact gctgaggctg    120
tgggggcggg ttatcaggca gtgataaaca t                                151
```

<210> 319

<211> 151

<212> DNA

<213> Homo sapien

<400> 319

```
aactagtggg tccagagcta taggtacagt gtgatctcag ctttgcacac acattcttcta    60
catagatagt accaggtatt aatagatatg taagagaaga aatcacacca ttaataatgg    120
taagattggg ttatgtgat tttagtgggt a                                151
```

<210> 320

<211> 150

<212> DNA

<213> Homo sapien

<400> 320

```
aactagtggg tccactagtc cagtgttggt gaattccatt gtgttggggg tctagatcgc    60
gagcggctgc cctttttttt tttttttttg ggggggaatt tttttctttt aatagttatt    120
gagtgttcta cagcttacag taaatccat                                150
```

<210> 321

<211> 151

<212> DNA

<213> Homo sapien

<400> 321

```
agcaactctt tttttcatcc aggtattttt aggccttagga ttttctctca cartgcagtt    60
taggggtggc ttgtaaccag ctatggcata ggtgttaacc aaaggctgag taacatggg    120
tgctcttgag aaatcaaat cttcatcac t                                151
```

<210> 322

<211> 151

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1) ... (151)

<223> n = A, T, C or G

<400> 322

```
atcagcatc ttctctgtt tcttgccttc ctttttttc ttcttasatt ctgcttgagg    60
tttgggttg gtcatgttg cacagggtt ggagatggt acagtcttc ggcattcggc    120
attgtcagg gtctgttca nacttccagt t                                151
```

<210> 323

<211> 151

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(251)

<223> n = A,T,C or G

<400> 323

tgaggacttg tktctctttt ctttattttt aatcctctta cktctgtaa atattgccta	60
nagactcant tactaccag tttgtgggtt twtggggaga atgtactgg acagtttagct	120
gttcaatya aaagacactt ancccatgtg g	151

<210> 324

<211> 461

<212> DNA

<213> Homo sapien

<220>

<221> misc\_feature

<222> (1)...(461)

<223> n = A,T,C or G

<400> 324

acctgtgtgg aatttcagct ttctcatgc aaaggattt tgtatcccc gctacttga	60
agaagtgtc agctaaggaa atccaggttg ttggttgga cgttaatacc ttgatgaaa	120
agagttacta cpaatcccat cttggttcca gtatatcac tgacagcatg gttagagact	180
gccaacctca cttctagact ttacaggttg gacgaacagg gttcagaaac tgccaggggc	240
ctcatcacagg gatataaaa tacccttttg gtatccagg cctggggaa tcaggtgact	300
cacacaaatg caatagtctg tcaatgcatt tttaacctga ccaagctaa acccgggtt	360
gccaacctgc acctgtgcat gccagagttc aaactgtgtg ctcttgaaa ttgggtctga	420
aaabacgcac aagagccctt gacctgacct agctganga c	461

<210> 325

<211> 400

<212> DNA

<213> Homo sapien

<400> 325

acactgtttc catgttatgt ttctaracat tgcacctca gtgccctgg aaacttagct	60
tttgatgtct ccaagtatg cacttccatt taactctttg aaactgtatc atctttgcca	120
agtaagagtg gtggcctatt tcaagtgtt tgacaaaatg actggctcct gacttaacgt	180
tctataaatg aatgtgctga agcaaatg ccatgtgtgg ggcgaagaag agaaagatgt	240
gttttgtttt ggaactctct tggctccctc caatgtctgt ggtttccaac caggggaagg	300
gtcccttttg cattgccaag tgcataaac atgagcarta cgtaccatg gtctgcctc	360
ctggccaagc aggtgtgttt gcaagaatga aatgaatgat	400

<210> 326

<211> 1215

<212> DNA

<213> Homo sapien

<400> 326

ggaggactgc agccgcact cgcagccctg gcaggcgga ctggctcatg aaaacgaatt	60
gttctgctcg ggcgtcttg tgcatacga gtgggtgctg tcagccgcac actgtttcca	120
gaactctac accatcgggc tgggcttgca cagctttgag gccgaccaag agccaggag	180

ccaghtggtg	gaggccager	tctcgtarg	gcaccagag	tacaacagac	ccttgcctgc	240
taacgacctc	atgctcatca	agttggacga	atccgtgtor	gagtctgaca	ccatccggag	300
catcagcatt	gcttcgcagt	gcccatacgc	ggggaaactct	tgcttcgltt	ctggtctggg	360
tctgctggcg	aacggcagaa	tgccatacgt	gctgcagtgc	gtgaacgtgt	cgggtggtgtc	420
tgaggaggtc	tgacgttaagc	tctatgaccc	gctgtaccac	cccagcatgt	tctgocccgg	480
cggagggcaa	gaccagaagg	actcctgcac	cggtgactct	ggggggcccc	tgatctgcaa	540
cgggtacttg	cagggccttg	tgtctttcgg	aaaagccccg	tgtggccaag	ttggcgtgcc	600
aggtgtctac	acraacctct	gcaaatccac	tgagtggata	gagaaacccg	tccaggccag	660
ttaactctgg	ggactgggaa	cccatgaaat	tgacccccaa	atacatcctg	cggaggggaat	720
tcagggaatat	ctgttcccag	ccrctcctcr	ctcaggccca	ggagtccagg	cccccagccc	780
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agacccccca	gccccctc	cctcagaccc	aggagtccag	ccctcctccc	ctcagaccca	900
ggagtccaga	cccccagacc	cctcctccct	cagacccagg	ggtccaggcc	cccaacccct	960
cctccctcag	actcagaggt	ccaagccccr	aaacccctcc	tccccagacc	cagaggtcca	1020
ggtccagacc	cctcctccct	cagacccagc	ggtccaatgc	cacctagact	ctcctgtlac	1080
acagtgcctc	cctgtggcac	gttgacccaa	ccttaaccagt	tggtttttca	tttctgtcc	1140
cttcccccct	gatccagaaa	caaagtctaa	gagaagcgca	aaaaaaanaa	aaaaaaaaaa	1200
aaaaaaaaaa	aaaaa					1215

&lt;210&gt; 327

&lt;211&gt; 220

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 327

Glu	Asp	Cys	Ser	Pro	His	Ser	Gln	Pro	Trp	Gln	Ala	Ala	Leu	Val	Met
1				5					10					15	
Glu	Asn	Glu	Leu	Phe	Cys	Ser	Gly	Val	Leu	Val	His	Pro	Gln	Trp	Val
			20					25					30		
Leu	Ser	Ala	Ala	His	Cys	Phe	Gln	Asn	Ser	Tyr	Thr	Ile	Gly	Leu	Gly
		35					40					45			
Leu	His	Ser	Leu	Glu	Ala	Asp	Gln	Glu	Pro	Gly	Ser	Gln	Met	Val	Glu
		50				55					60				
Ala	Ser	Leu	Ser	Val	Arg	His	Pro	Glu	Tyr	Asn	Arg	Pro	Leu	Leu	Ala
65					70					75				80	
Asn	Asp	Leu	Met	Leu	Ile	Lys	Leu	Asp	Glu	Ser	Val	Ser	Glu	Ser	Asp
			85						90					95	
Thr	Ile	Arg	Ser	Ile	Ser	Ile	Ala	Ser	Gln	Cys	Pro	Thr	Ala	Gly	Asn
			100					105					110		
Ser	Cys	Leu	Val	Ser	Gly	Trp	Gly	Leu	Leu	Ala	Asn	Gly	Arg	Met	Pro
		115					120					125			
Thr	Val	Leu	Gln	Cys	Val	Asn	Val	Ser	Val	Val	Ser	Glu	Glu	Val	Cys
		130				135					140				
Ser	Lys	Leu	Tyr	Asp	Pro	Leu	Tyr	His	Pro	Ser	Met	Phe	Cys	Ala	Gly
145				150						155				160	
Gly	Gly	Gln	Asp	Gln	Lys	Asp	Ser	Cys	Asn	Gly	Asp	Ser	Gly	Gly	Pro
			165						170					175	
Leu	Ile	Cys	Asn	Gly	Tyr	Leu	Gln	Gly	Leu	Val	Ser	Phe	Gly	Lys	Ala
		180					185					190			
Pro	Cys	Gly	Gln	Val	Gly	Val	Pro	Gly	Val	Tyr	Thr	Asn	Leu	Cys	Lys
		195					200					205			
Phe	Thr	Glu	Trp	Ile	Glu	Lys	Thr	Val	Gln	Ala	Ser				
		210				215					220				

&lt;210&gt; 328

<211> 234  
 <212> DNA  
 <213> Homo sapien

<400> 328

```

cgtctgtctc tggtagctgc agccaaatca taaacggcga ggartgcagc ccgcactcgc      60
agcccttggca ggcggcactg gtcattgaaa argaattgtt ctgtcgggc gtcttggtag      120
atcgcagtg ggtgtgtgca gccacacac gtctccagaa ctctacacc atcgggctgg      180
gcctgcacag tcttgaggcc gaccaagagc caggagacca gatggtggag gccca      234
  
```

<210> 329  
 <211> 77  
 <212> PRT  
 <213> Homo sapien

<400> 329

```

Leu Val Ser Gly Ser Cys Ser Gln Ile Ile Asn Gly Glu Asp Cys Ser
 1             5             10             15
Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met Glu Asn Glu Leu
      20             25             30
Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Thr
      35             40             45
His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu
      50             55             60
Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala
65             70             75
  
```

<210> 330  
 <211> 70  
 <212> DNA  
 <213> Homo sapien

<400> 330

```

ccccacacaa tggcccgatc ccattccctga ctccggcctc aggatcgctc gtctctggtc      60
gctgcagaca                                     70
  
```

<210> 331  
 <211> 22  
 <212> PRT  
 <213> Homo sapien

<400> 331

```

Gln His Asn Gly Pro Ile Pro Ser Leu Thr Pro Pro Ser Gly Ser Leu
 1             5             10             15
Val Ser Gly Ser Cys Ser
      20
  
```

<210> 332  
 <211> 2507  
 <212> DNA  
 <213> Homo sapien

<400> 332

```

tgggtgccgct gcagccggca gagatgggtg agctcatgtt cccgctgttg ctctctcttc      60
tgcccttctt tctgcatttg gctgcgcccc aaatcagga aatgctgtcc agtgggggtg      120
  
```

gtacatcaac	tgttcagctt	cctgggaaag	tagt.tgtggt	cacaggagct	aatncaggta	180
tcgggaagg	gacagccaa	gagctggctc	agngaggagc	tcgagtatat	ttagcttgc	240
gggatgtgga	aaaggggga	ttggtggcua	aagagatcca	gaucacgaca	gggaaccagc	300
aggtgttgg	gcggaaactg	gacutgtctg	atactaagtc	tattcgagct	tttgcataag	360
gcttcttagc	tgaggaaaag	caactccacg	ttttgatcaa	caatgcaggc	gtgatgatgc	420
gtccgtactc	gaagacagca	gatggctttg	agatgcacat	aggagtcaac	caacttgggtc	480
acttcttctc	ancccatctg	ctgctagaga	aactaaaggga	atcagcccca	tcagggatag	540
taaatgtgtc	ttccctcgca	catcacttgg	gaaggatcca	cttccataac	ctgcaggcgc	600
agaaatttca	caatgcaggc	ctggcctact	gtcacagcaa	gctagccaac	atcctcttca	660
cccaggaaact	ggcccgagga	ctaaaaggct	ctggcgltac	gacgtatttc	gtacaccttg	720
gcacagtcga	atctgacctg	gtccggcact	catctttcat	ggatggatg	tgggtgcttt	780
tctccctttt	catcaagact	cctcagcagg	gagcccgagc	cagcctgcac	tgtgccttaa	840
cagaaggctc	tgagattcta	agtgggatac	atltcagtg	ctgtcatgct	gcatgggtct	900
ctgcccagc	tcgtantgag	actatagcaa	ggcggtctgt	ggacgtcagc	tgtgacctgc	960
tgggctctcc	aatagactaa	caggcagtcg	caattggacc	caagagagga	ctgcagcaga	1020
ctacacagta	cttctgttca	aaatgactct	ccttcaaggc	cttcaaaacc	tttgcacaaa	1080
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ctgaagagaa	ctactacctc	ggagaatcta	agttatagca	gggatgatct	atgcataattt	1320
gaactagctt	cttctgttca	aattcagttc	ctcccaacca	accagttctc	acttccaggag	1380
ggccacactg	caacctcagc	ttaacatgaa	taacaaagac	tgggtcaggc	gcagggcttg	1440
cccaggcatg	gtggatcac	ggaggtcagt	agttcaagac	cagcctggcc	caaatgggtg	1500
aaccncaact	ctactaaaaa	ttgtgtatat	ctttgtgtgt	cttctgttct	atgtgtgcca	1560
agggagtatc	ttcacaaagt	tcaaaacagc	cacataatc	agagatggag	caaacagtg	1620
catccagtc	tttatgcaaa	tgaaatgctg	cuaagggaag	cagattctgt	atatgttgg	1680
aaactccncc	caagagcaca	tgggtatgag	ggaggaagta	aaaaaagaga	agggagaatc	1740
tggagatcaa	tgcacaaaat	gaagggaact	gttaaggatt	aactagccct	ttaaaggatta	1800
actagttaag	gattaatagc	aaaagayatt	aaatatgcta	acatagctat	ggagggaattg	1860
agggcaagca	cccaggactg	atgaggtctt	aaacaaaacc	agtgtggcaa	aaaaaanaaa	1920
aaanaaaaaa	aaaatctcta	aaaacaaaca	aaacaaaaaa	acaattcttc	atcagaanaa	1980
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cttaccttgc	cttgacagca	ttaaatgttc	tgtgcacaaa	ttttgtattt	catlttgagga	2100
cttcttatca	aaagttaatg	tgccaaaggc	agttctaaag	attagtatgt	ttcccatrac	2160
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cttgggtggg	ggaaagagtt	ataggaccac	agttcttact	tctgatactt	gtaaattaat	2280
cttttatctg	acttgttttg	accatttaag	catatgttta	gaatgggtca	ttttacggaa	2340
aaattagaag	aattctgata	atagtgcaga	ataaattga	taattgtttt	cttaatttat	2400
attgaactgt	caatgacaaa	taaaaattcc	ttttgattat	ttcttgtttc	catlttaccag	2460
aataaaaaac	tangaattaa	aagtttgatt	acaaaaaaaa	aaaaaaa		2507

&lt;210&gt; 333

&lt;211&gt; 3030

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 333

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&lt;210&gt; 334

&lt;211&gt; 2417

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 334

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&lt;210&gt; 335

&lt;211&gt; 2984

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 335

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&lt;210&gt; 336

&lt;211&gt; 147

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 336

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Leu	Asp	Ser	Glu	Asn	Thr	Ser	Gly	Ala	Leu	Pro	Arg	Leu	Pro	Gln	Thr
	20						25					30			
Pro	Lys	Gln	Pro	Gln	Lys	Arg	Ser	Arg	Ala	Ala	Phe	Ser	His	Thr	Gln
	35					40						45			
Val	Ile	Glu	Leu	Glu	Arg	Lys	Phe	Ser	His	Gln	Lys	Tyr	Leu	Ser	Ala
	50				55					60					
Pro	Glu	Arg	Ala	His	Leu	Ala	Lys	Asn	Leu	Lys	Leu	Thr	Glu	Thr	Gln
65					70					75					80

Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln  
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 Leu Ser Ser Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala  
                     100                    105                    110  
 Leu Lys Glu Glu Ala Phe Ser Arg Ala Ser Leu Val Ser Val Tyr Asn  
                     115                    120                    125  
 Ser Tyr Pro Tyr Tyr Pro Tyr Leu Tyr Cys Val Gly Ser Trp Ser Pro  
                     130                    135                    140  
 Ala Phe Trp  
 145

<210> 337  
 <211> 9  
 <212> PRT  
 <213> Homo sapien

<400> 337  
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 <213> Homo sapien

<400> 338  
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<210> 339  
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 <213> Homo sapien

<400> 339  
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 Leu Tyr Met Ala Ala Pro Gln Ile Arg Lys Met Leu Ser Ser Gly Val  
                     20                    25                    30  
 Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Val Thr Gly  
                     35                    40                    45  
 Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg  
                     50                    55                    60  
 Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu  
   65                    70                    75                    80  
 Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val Leu Val  
                     85                    90                    95  
 Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Lys  
                     100                    105                    110  
 Gly Phe Leu Ala Glu Glu Lys His Leu His Val Leu Ile Asn Asn Ala  
                     115                    120                    125  
 Gly Val Met Met Cys Pro Tyr Ser Lys Thr Ala Asp Gly Phe Glu Met  
                     130                    135                    140  
 His Ile Gly Val Asn His Leu Gly His Phe Leu Leu Thr His Leu Leu

145                      150                      155                      160  
 Leu Glu Lys Leu Lys Glu Ser Ala Pro Ser Arg Ile Val Asn Val Ser  
                          165                      170                      175  
 Ser Leu Ala His His Leu Gly Arg Ile His Phe His Asn Leu Gln Gly  
                          180                      185                      190  
 Glu Lys Phe Tyr Asn Ala Gly Leu Ala Tyr Cys His Ser Lys Leu Ala  
                          195                      200                      205  
 Asn Ile Leu Phe Thr Gln Glu Leu Ala Arg Arg Leu Lys Gly Ser Gly  
                          210                      215                      220  
 Val Thr Thr Tyr Ser Val His Pro Gly Thr Val Gln Ser Glu Leu Val  
 225                                   230                                   235                                   240  
 Arg His Ser Ser Phe Met Arg Trp Met Trp Trp Leu Phe Ser Phe Phe  
                                  245                                   250                                   255  
 Ile Lys Thr Pro Gln Gln Gly Ala Gln Thr Ser Leu His Cys Ala Leu  
                                  260                                   265                                   270  
 Thr Glu Gly Leu Glu Ile Leu Ser Gly Asn His Phe Ser Asp Cys His  
                                  275                                   280                                   285  
 Val Ala Trp Val Ser Ala Gln Ala Arg Asn Glu Thr Ile Ala Arg Arg  
                                  290                                   295                                   300  
 Leu Trp Asp Val Ser Cys Asp Leu Leu Gly Leu Pro Ile Asp  
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&lt;210&gt; 340

&lt;211&gt; 483

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 340

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 ctg      483

&lt;210&gt; 341

&lt;211&gt; 344

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 341

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 ctgatttcta acattgtctt taatgaccac aagacaacca acag      344

&lt;210&gt; 342

&lt;211&gt; 592

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 342

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&lt;210&gt; 343

&lt;211&gt; 382

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 343

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&lt;210&gt; 344

&lt;211&gt; 536

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 344

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&lt;210&gt; 345

&lt;211&gt; 251

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 345

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<210> 346  
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 <212> DNA  
 <213> Homo sapien

<220>  
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 <223> n = A,T,C or G

<400> 346  
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 <213> Homo sapien

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 <213> Homo sapien

<400> 349  
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actcctgggtt t

251

&lt;210&gt; 350

&lt;211&gt; 908

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 350

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&lt;210&gt; 351

&lt;211&gt; 472

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 351

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&lt;210&gt; 352

&lt;211&gt; 251

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 352

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&lt;210&gt; 353

&lt;211&gt; 436

&lt;212&gt; DNA



<213> Homo sapien

<400> 353

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<210> 354

<211> 854

<212> DNA

<213> Homo sapien

<400> 354

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<210> 355

<211> 676

<212> DNA

<213> Homo sapien

<400> 355

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<210> 356

<211> 574

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 356

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&lt;210&gt; 357

&lt;211&gt; 393

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 357

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&lt;210&gt; 358

&lt;211&gt; 630

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 358

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caagccagag	gttccctcac	aaacaaccagt				630

&lt;210&gt; 359

&lt;211&gt; 620

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 359

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&lt;210&gt; 360

&lt;211&gt; 431

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 360

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&lt;210&gt; 361

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 361

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&lt;210&gt; 362

&lt;211&gt; 463

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 362

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&lt;210&gt; 363

&lt;211&gt; 653

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<400> 363

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<400> 364

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<210> 366  
 <211> 1851  
 <212> DNA  
 <213> Homo sapien

<400> 366

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&lt;210&gt; 367

&lt;211&gt; 664

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 367

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&lt;210&gt; 368

&lt;211&gt; 1512

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 368

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&lt;210&gt; 369

&lt;211&gt; 1853

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 369

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<210> 370  
 <211> 2184  
 <212> DNA  
 <213> Homo sapien

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<210> 371  
 <211> 1855  
 <212> DNA  
 <213> Homo sapien

<220>  
 <221> misc\_feature  
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 <223> n = A,T,C or G

<400> 371

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<210> 372  
 <211> 1059  
 <212> DNA  
 <213> Homo sapien

<400> 372

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&lt;210&gt; 373

&lt;211&gt; 1155

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 373

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&lt;210&gt; 374

&lt;211&gt; 2000

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 374

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gacaaagctcc	acagagctgc	ctggtaggggt	aaagtcccca	gaaaggatct	catcgtcatg	480
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&lt;210&gt; 375

&lt;211&gt; 2040

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 375

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aagcatgaaa	gtaataargt	gggattacta	gaaaacctga	ctaactgggt	cactgctggc	1320
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gaaaagcaga tagaagtggc tgaaaaaatg aattctgagc ttctctctag ctgtaagaaa 1920
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gagctagaca caatgaaca tcagagccag ctaaaaaaa aaaaaaaa aaaaaaaa 2040

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&lt;210&gt; 376

&lt;211&gt; 329

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 376

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Leu His Leu Ala Gly Ser Asp Leu Leu Ser Arg Ser Leu Met Ala Glu
20 25 30
Glu Tyr Thr Ile Val His Ala Ser Phe Ile Ser Cys Ile Ser Ser Ser
35 40 45
Leu Asp Gly Gln Gly Glu Arg Gln Glu Gln Arg Gly His Phe Trp Arg
50 55 60
Pro Gln Arg Leu Leu Cys Glu Asp Ala Trp Glu Gln Glu Val Gln Val
65 70 75 80
Val Leu Pro Leu Leu Pro Leu Leu Gln Gly Ser Gly Lys Ser Asn Val
85 90 95
Val Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe Met Asp Pro Arg Tyr
100 105 110
His Val His Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp
115 120 125
Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
130 135 140
Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
145 150 155 160
Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
165 170 175
Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
180 185 190
Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly
195 200 205
Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr
210 215 220
Ala Val Tyr Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr
225 230 235 240
Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu
245 250 255
Leu Gly Ile His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys
260 265 270
Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu
275 280 285
Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu

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290		295		300
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Ser Met Leu Phe Leu Val Ile Ile Met				320
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<210> 377  
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 <213> Homo sapien

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	35 40 45
Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu	
	50 55 60
Val Val Lys Leu Xaa Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp	
65	70 75 80
Asn Lys Lys Arg Thr Ala Leu Xaa Lys Ala Val Gln Cys Gln Glu Asp	
	85 90 95
Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro	
	100 105 110
Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Xaa Tyr Asn Glu Asp	
	115 120 125
Lys Leu Met Ala Lys Ala Leu Leu Tyr Gly Ala Asp Ile Glu Ser	
	130 135 140
Lys Asn Lys Val	
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<210> 378  
 <211> 1719  
 <212> PRT  
 <213> Homo sapien

<400> 378	
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Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp	
	35 40 45
His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp	
	50 55 60
Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val	
65	70 75 80
Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn	

				85					90				95		
Lys	Met	Gly	Lys	Trp	Cys	Cys	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser
				100					105				110		
Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe
				115				120					125		
Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp	Leu	Asp	Lys	Leu	His
				130			135					140			
Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val	Pro	Arg	Lys	Asp	Leu	Ile	Val	Met
				145			150				155				160
Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys	Lys	Asp	Lys	Gln	Lys	Arg	Thr	Ala
				165					170					175	
Leu	His	Leu	Ala	Ser	Ala	Asn	Gly	Asn	Ser	Glu	Val	Val	Lys	Ileu	Leu
				180				185						190	
Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn	Val	Leu	Asp	Asn	Lys	Lys	Arg	Thr
				195			200					205			
Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys	Gln	Glu	Asp	Glu	Cys	Ala	Leu	Met
				210			215					220			
Leu	Leu	Glu	His	Gly	Thr	Asp	Pro	Asn	Ile	Pro	Asp	Glu	Tyr	Gly	Asn
				225		230				235					240
Thr	Thr	Leu	His	Tyr	Ala	Ile	Tyr	Asn	Glu	Asp	Lys	Leu	Met	Ala	Lys
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Ala	Leu	Leu	Leu	Tyr	Gly	Ala	Asp	Ile	Glu	Ser	Lys	Asn	Lys	His	Gly
				260				265						270	
Leu	Thr	Pro	Leu	Leu	Leu	Gly	Val	His	Glu	Gln	Lys	Gln	Gln	Val	Val
				275			280					285			
Lys	Phe	Leu	Ile	Lys	Lys	Lys	Ala	Asn	Leu	Asn	Ala	Leu	Asp	Arg	Tyr
				290			295				300				
Gly	Arg	Thr	Ala	Leu	Ile	Leu	Ala	Val	Cys	Cys	Gly	Ser	Ala	Ser	Ile
				305		310			315						320
Val	Ser	Leu	Leu	Leu	Glu	Gln	Asn	Ile	Asp	Val	Ser	Ser	Gln	Asp	Leu
				325					330					335	
Ser	Gly	Gln	Thr	Ala	Arg	Glu	Tyr	Ala	Val	Ser	Ser	His	His	His	Val
				340				345						350	
Ile	Cys	Gln	Leu	Leu	Ser	Asp	Tyr	Lys	Glu	Lys	Gln	Met	Leu	Lys	Ile
				355			360					365			
Ser	Ser	Glu	Asn	Ser	Asn	Pro	Glu	Asn	Val	Ser	Arg	Thr	Arg	Asn	Lys
				370		375					380				
Pro	Arg	Thr	His	Met	Val	Val	Glu	Val	Asp	Ser	Met	Pro	Ala	Ala	Ser
				385		390				395					400
Ser	Val	Lys	Lys	Pro	Phe	Gly	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp	Cys
				405					410					415	
Cys	Arg	Cys	Phe	Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys	Ser	Asn	Val	Gly
				420				425						430	
Thr	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Ser	Lys
				435			440						445		
Met	Gly	Lys	Trp	Cys	Arg	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser	Gly
				450			455					460			
Lys	Ser	Asn	Val	Gly	Ala	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys
				465		470				475					480
Thr	Leu	Arg	Asn	Lys	Met	Gly	Lys	Trp	Cys	Cys	His	Cys	Phe	Pro	Cys
				485					490					495	
Cys	Arg	Gly	Ser	Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr	Asp
				500				505					510		
Asp	Ser	Ala	Phe	Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp	Leu
				515			520						525		

Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp  
 530 535 540  
 Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln  
 545 550 555 560  
 Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val  
 565 570 575  
 Val Lys Leu Leu Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn  
 580 585 590  
 Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu  
 595 600 605  
 Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp  
 610 615 620  
 Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys  
 625 630 635 640  
 Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys  
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 Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys  
 660 665 670  
 Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala  
 675 680 685  
 Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly  
 690 695 700  
 Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser  
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 Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser  
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 His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln  
 740 745 750  
 Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys  
 755 760 765  
 Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser  
 770 775 780  
 Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp  
 785 790 795 800  
 Arg Glu Val Glu Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly  
 805 810 815  
 Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn  
 820 825 830  
 Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe  
 835 840 845  
 Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser  
 850 855 860  
 Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn  
 865 870 875 880  
 Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu  
 885 890 895  
 Glu Gly Ser Glu Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile  
 900 905 910  
 Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn  
 915 920 925  
 Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro  
 930 935 940  
 Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu  
 945 950 955 960  
 Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe

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Cys Glu Glu Gln	Asn Thr Gly Ile	Leu His Asp Glu	Ile Leu Ile His		
	980		985		990
Glu Glu Lys Gln	Ile Glu Val Val	Glu Lys Met Asn	Ser Glu Ile Ser		
	995		1000		1005
Leu Ser Cys Lys	Lys Glu Lys Asp	Ile Leu His Glu	Asn Ser Thr Leu		
	1010		1015		1020
Arg Glu Glu Ile	Ala Met Leu Arg	Leu Glu Ile Asp	Thr Met Lys His		
	1025		1030		1035
Gln Ser Gln Leu	Pro Arg Thr His	Met Val Val Glu	Val Asp Ser Met		
	1045		1050		1055
Pro Ala Ala Ser	Ser Val Lys Lys	Pro Phe Gly Leu	Arg Ser Lys Met		
	1060		1065		1070
Gly Lys Trp Cys	Cys Arg Cys Phe	Pro Cys Cys Arg	Glu Ser Gly Lys		
	1075		1080		1085
Ser Asn Val Gly	Thr Ser Gly Asp	His Asp Asp Ser	Ala Met Lys Thr		
	1090		1095		1100
Leu Arg Ser Lys	Met Gly Lys Trp	Cys Arg His Cys	Phe Pro Cys Cys		
	1105		1110		1115
Arg Gly Ser Gly	Lys Ser Asn Val	Gly Ala Ser Gly	Asp His Asp Asp		
	1125		1130		1135
Ser Ala Met Lys	Thr Leu Arg Asn	Lys Met Gly Lys	Trp Cys Cys His		
	1140		1145		1150
Cys Phe Pro Cys	Cys Arg Gly Ser	Gly Lys Ser Lys	Val Gly Ala Trp		
	1155		1160		1165
Gly Asp Tyr Asp	Asp Ser Ala Phe	Met Glu Pro Arg	Tyr His Val Arg		
	1170		1175		1180
Gly Glu Asp Leu	Asp Lys Leu His	Arg Ala Ala Trp	Trp Gly Lys Val		
	1185		1190		1195
Pro Arg Lys Asp	Leu Ile Val Met	Leu Arg Asp Thr	Asp Val Asn Lys		
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Lys Asp Lys Gln	Lys Arg Thr Ala	Leu His Leu Ala	Ser Ala Asn Gly		
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Asn Ser Glu Val	Val Lys Leu Leu	Leu Asp Arg Arg	Cys Gln Leu Asn		
	1235		1240		1245
Val Leu Asp Asn	Lys Lys Arg Thr	Ala Leu Ile Lys	Ala Val Gln Cys		
	1250		1255		1260
Gln Glu Asp Glu	Cys Ala Leu Met	Leu Leu Glu His	Gly Thr Asp Pro		
	1265		1270		1275
Asn Ile Pro Asp	Glu Tyr Gly Asn	Thr Thr Leu His	Tyr Ala Ile Tyr		
	1285		1290		1295
Asn Glu Asp Lys	Ile Met Ala Lys	Ala Leu Leu Leu	Tyr Gly Ala Asp		
	1300		1305		1310
Ile Glu Ser Lys	Asn Lys His Gly	Leu Thr Pro Leu	Leu Leu Gly Val		
	1315		1320		1325
His Glu Gln Lys	Gln Gln Val Val	Lys Phe Leu Ile	Lys Lys Lys Ala		
	1330		1335		1340
Asn Ile Asn Ala	Leu Asp Arg Tyr	Gly Arg Thr Ala	Lcu Ile Leu Ala		
	1345		1350		1355
Val Cys Cys Gly	Ser Ala Ser Ile	Val Ser Leu Leu	Leu Glu Gln Asn		
	1365		1370		1375
Ile Asp Val Ser	Ser Gln Asp Leu	Ser Gly Gln Thr	Ala Arg Glu Tyr		
	1380		1385		1390
Ala Val Ser Ser	His His His Val	Ile Cys Gln Leu	Leu Ser Asp Tyr		
	1395		1400		1405

Lys Glu Lys Gln Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu  
 1410 1415 1420  
 Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly  
 1425 1430 1435 144  
 Ser Glu Asn Ser Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn  
 1445 1450 1455  
 Lys Asp Gly Asp Arg Glu Val Glu Glu Glu Met Lys Lys His Glu Ser  
 1460 1465 1470  
 Asn Asn Val Gly Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly  
 1475 1480 1485  
 Asn Gly Asp Asn Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu  
 1490 1495 1500  
 Asn Gln Gln Phe Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys  
 1505 1510 1515 152  
 Glu Leu Val Ser Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser  
 1525 1530 1535  
 Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu  
 1540 1545 1550  
 Ser Gln Arg Leu Glu Gly Ser Glu Asn Gly Gln Pro Glu Lys Arg Ser  
 1555 1560 1565  
 Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Leu Glu Asn Phe  
 1570 1575 1580  
 Met Ala Ile Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe  
 1585 1590 1595 160  
 Pro Glu Asn Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly  
 1605 1610 1615  
 Leu Ile Pro Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro  
 1620 1625 1630  
 Asp Thr Glu Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln  
 1635 1640 1645  
 Lys Gln Phe Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile  
 1650 1655 1660  
 Leu Ile His Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser  
 1665 1670 1675 168  
 Glu Leu Ser Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn  
 1685 1690 1695  
 Ser Thr Leu Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Leu Asp Thr  
 1700 1705 1710  
 Met Lys His Gln Ser Gln Leu  
 1715

&lt;210&gt; 379

&lt;211&gt; 656

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 379

Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys  
 1 5 10 15  
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe  
 20 25 30  
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp  
 35 40 45  
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp  
 50 55 60



Cys Arg His Lys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val  
 65 70 75 80  
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn  
 85 90 95  
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser  
 100 105 110  
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe  
 115 120 125  
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His  
 130 135 140  
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met  
 145 150 155 160  
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala  
 165 170 175  
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu  
 180 185 190  
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr  
 195 200 205  
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met  
 210 215 220  
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn  
 225 230 235 240  
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys  
 245 250 255  
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly  
 260 265 270  
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val  
 275 280 285  
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr  
 290 295 300  
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile  
 305 310 315 320  
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu  
 325 330 335  
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val  
 340 345 350  
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile  
 355 360 365  
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu  
 370 375 380  
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys  
 385 390 395 400  
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu  
 405 410 415  
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn  
 420 425 430  
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro  
 435 440 445  
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu  
 450 455 460  
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu  
 465 470 475 480  
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp  
 485 490 495  
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu

Asn	Gly	Glu	Pro	Glu	Leu	Glu	Asn	Phe	Met	Ala	Ile	Glu	Glu	Met	Lys
	515						520					525			
Lys	His	Gly	Ser	Thr	His	Val	Gly	Phe	Pro	Glu	Asn	Leu	Thr	Asn	Gly
	530					535					540				
Ala	Thr	Ala	Gly	Asn	Gly	Asp	Asp	Gly	Leu	Ile	Pro	Pro	Arg	Lys	Ser
545					550					555					560
Arg	Thr	Pro	Glu	Ser	Gln	Gln	Phe	Pro	Asp	Thr	Glu	Asn	Glu	Glu	Tyr
			565					570						575	
His	Ser	Asp	Glu	Gln	Asn	Asp	Thr	Gln	Lys	Gln	Phe	Cys	Glu	Glu	Gln
		580					585						590		
Asn	Thr	Gly	Ile	Leu	His	Asp	Glu	Ile	Leu	Ile	His	Glu	Glu	Lys	Gln
	595						600					605			
Ile	Glu	Val	Val	Glu	Lys	Met	Asn	Ser	Glu	Leu	Ser	Leu	Ser	Cys	Lys
	610					615					620				
Lys	Glu	Lys	Asp	Ile	Leu	His	Glu	Asn	Ser	Thr	Leu	Arg	Glu	Glu	Ile
625					630					635					640
Ala	Met	Leu	Arg	Leu	Glu	Leu	Asp	Thr	Met	Lys	His	Gln	Ser	Gln	Leu
				645					650					655	

&lt;210&gt; 380

&lt;211&gt; 671

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 380

Met	Val	Val	Glu	Val	Asp	Ser	Met	Pro	Ala	Ala	Ser	Ser	Val	Lys	Lys
1				5					10					15	
Pro	Phe	Gly	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp	Cys	Cys	Arg	Cys	Phe
		20						25					30		
Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys	Ser	Asn	Val	Gly	Thr	Ser	Gly	Asp
		35					40					45			
His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp
	50					55					60				
Cys	Arg	His	Lys	Phe	Pro	Cys	Cys	Arg	Gly	Ser	Gly	Lys	Ser	Asn	Val
65				70						75					80
Gly	Ala	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Asn
			85						90					95	
Lys	Met	Gly	Lys	Trp	Cys	Cys	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser
		100						105					110		
Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe
		115					120					125			
Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp	Leu	Asp	Lys	Leu	His
	130					135					140				
Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val	Pro	Arg	Lys	Asp	Leu	Ile	Val	Met
145					150					155					160
Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys	Lys	Asp	Lys	Gln	Lys	Arg	Thr	Ala
			165						170					175	
Leu	His	Leu	Ala	Ser	Ala	Asn	Gly	Asn	Ser	Glu	Val	Val	Lys	Leu	Leu
		180						185					190		
Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn	Val	Leu	Asp	Asn	Lys	Lys	Arg	Thr
	195						200					205			
Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys	Gln	Glu	Asp	Glu	Cys	Ala	Leu	Met
	210					215					220				
Leu	Leu	Glu	His	Gly	Thr	Asp	Pro	Asn	Ile	Pro	Asp	Glu	Tyr	Gly	Asn

225	230	235	240
Thr Thr Leu His Tyr	Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys		
	245	250	255
Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly			
	260	265	270
Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val			
	275	280	285
Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr			
	290	295	300
Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile			
305	310	315	320
Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu			
	325	330	335
Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val			
	340	345	350
Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile			
	355	360	365
Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu			
	370	375	380
Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys			
385	390	395	400
Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu			
	405	410	415
Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn			
	420	425	430
Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro			
	435	440	445
Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu			
	450	455	460
Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu			
465	470	475	480
Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp			
	485	490	495
Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu			
	500	505	510
Asn Gly Gln Pro Glu Lys Arg Ser Gln Glu Pro Glu Ile Asn Lys Asp			
	515	520	525
Gly Asp Arg Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys Lys			
	530	535	540
His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly Ala			
545	550	555	560
Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser Arg			
	565	570	575
Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr His			
	580	585	590
Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln Asn			
	595	600	605
Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln Ile			
	610	615	620
Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys Lys			
625	630	635	640
Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile Ala			
	645	650	655
Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu			
	660	665	670

<210> 381  
 <211> 251  
 <212> DNA  
 <213> Homo sapien

<400> 381

ggagagagcgt ctgctggggc aggaaggggt ttccctgccc tctcaccctgt cctcaccac	60
ggtaacatgc ttccctcag ggtatcccaa cccaggggccc tcccatgac ctclgagggg	120
cccatatccc agyagaagca ttggggaglt gggggcaggt gaaggaccca ggactcacc	180
atcctggggc tccaaggcag aggagaggggt cctcaagaaq gtccggaggga aatccgtaa	240
caagcagtca g	251

<210> 382  
 <211> 3279  
 <212> DNA  
 <213> Homo sapiens

<400> 382

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ctgctgaggg gtgtraggaa gtggtcgggc tctggggcag ggaggagggg tggggaggtgt	120
cactgggagg ggacatcctg cagaaggtag gagtggagcaa acacccgctg caggggaggag	180
gagagccctg cggcacctgg gggagccagag gtagcagrac ctgccagggc ctgggagggag	240
gggctggag ggcgtgagga gtagcgaggg ggctgcattg ctggagtgag ggatccagggg	300
caggggcggg gntggcctca cacagggagag agagggcccc tctgacggag cctcactgg	360
gcccacaggag gacactgctt ttctctgag gagtccggag ctgttgatgg tgcaggacag	420
aagaaggana gggcctgggt cagggtgtccg gaggctgttg ctggcttccc ttggggatca	480
gactcagagg agggaggggg gcaggagctgt ggggggagtg agagtgaggga tgacctgggg	540
gtgggtccag gcttggggc tgcctggggc ctcccccagc ctccctcaca gctcctggc	600
cctcagttct tccctccac tccatccctc ntctggcctc agtgggtcat tctgatcact	660
gaactgacca taccagccgc tgcctacggc cctccatggt tcccaatgc cctggagagg	720
ggacatctag tcagagagta gtccgagga ggtggcctct gcgatgtacc tgtggggggc	780
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ggaccttacc ccttctgctg gactcctgc ccatattctt ctgagtgagg gctgggagg	900
gagcctctgt cctctgctg agctgggaat tgcctcagt catctgctg ctgggtctct	960
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gactctgtgt ttctggtgtg ggtccaggg ctgclagga aaggaatggg cagacacagg	1440
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ctctgaagag ttctcgtca gttttagtga ggaacacac aaagacgtgg gtgacctgt	1560
tgttctgagg gtgcagagat gggaggggtg gggccacccc tggagagtg gacagtga	1620
caagggtggg acctctcaca gatcactgag gataagctgg agccacacty catgaggac	1680
acacacagca aggttgaguc tgtaacata gccacagctg tctggggg acbgggagc	1740
ctagataggg ccgtgagcag aagagagggg aggtactctc latgttgttg aaggagggac	1800
tagggggaga aactgaaagc tgattaatc cagggaggtt gtccagggtc cccaaacc	1860
cgtcagattt gatgatttcc tagcaggat tacagaaatc agagctatc atgctgtgt	1920
ttattatggg ttgttacct gataggatc atactgaat cagcaacac aacagatga	1980
tgatttagag tgtggagaa acaggggaaa acttgcaglt acgagactg gcaactg	2040
ttacttaggt ttccagactg gcaggaggtc aacctatta ggttgaggac cttgtggag	2100
gtagctgact cagctgagag aggaactagc cagggtgggg ccttccctt tggagggagg	2160

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gcataatcga cagttattct ctccagctgg agacttaagg acagcatata attctcccty 2220
caaggatgta tgaataatag tacaagtaa ttccaactga ggaagctcac ctgacccetta 2280
gtgtccagggt ttcttactgg gggctctgtag gacgagtatg ggtactctga ataactgacc 2340
tgaagtcttc agactctgag ttccctagag ttcaaacaga tacagcatgg tccagagtc 2400
cagatgtaca aaaacaggga ttcatcaaa atcccatctt tagcatgaag ggtctggcat 2460
ggcccaaggc cccaagtata tcaaggcart tgggcaagac atgccaaggc atcaaatgtc 2520
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aagcccccct ggggatttgg ttgggtcttg tgatcagggtg gtctatgggg ctatccctac 2700
aagaagagac ccaagaaatag gggcacattg aggaatgata ctgagcccaa agagcattca 2760
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gttatgaaga tggttgaaac cccacacat agcacctggg atatgagtc aacagtttct 2880
tagccataga gattcacagc ccagagcagg aggacgctgc accccatgca ggaatgacat 2940
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gttttgagac tggcaggtag tgaactcat tgggctgaga accttgtgga atgacgtgta 3120
tccagctgat agagggaagta gccaggttgg agcctttccc agtgggtgtg ggacatctct 3180
ggcaagattt tgtggcctc ctggttacag atactggggc agcaaataaa actgactctt 3240
gttttcagac cttcaaaaaa aaaaaaaana aaagtttt 3279

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<210> 383

<211> 155

<212> PRT

<213> Homo sapiens

<400> 383

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Met Ala Gly Val Arg Asp Gln Gly Gln Gly Ala Arg Trp Pro His Thr
      5                                10                    15

Gly Lys Arg Gly Pro Leu Leu Gln Gly Leu Thr Trp Ala Thr Gly Gly
      20                                25                    30

His Cys Phe Ser Ser Glu Glu Ser Gly Ala Val Asp Gly Ala Gly Gln
      35                                40                    45

Lys Lys Asp Arg Ala Trp Leu Arg Cys Pro Glu Ala Val Ala Gly Phe
      50                                55                    60

Pro Leu Gly Ser Asp Cys Arg Glu Gly Gly Arg Gln Gly Cys Gly Gly
      65                                70                    75                    80

Ser Asp Asp Glu Asp Asp Leu Gly Val Ala Pro Gly Leu Ala Pro Ala
      85                                90                    95

Trp Ala Leu Thr Gln Pro Pro Ser Gln Ser Pro Gly Pro Gln Ser Leu
      100                               105                    110

Pro Ser Thr Pro Ser Ser Ile Trp Pro Gln Trp Val Ile Leu Ile Thr
      115                               120                    125

Glu Leu Thr Ile Pro Ser Pro Ala His Gly Pro Pro Trp Leu Pro Asn
      130                               135                    140

Ala Leu Glu Arg Gly His Leu Val Arg Glu
      145                               150

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<210> 384  
 <211> 557  
 <212> DNA  
 <213> Homo sapiens

<400> 384  
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 aaagatgtgt ttgttttgg autctctggt gtcccttcca atgctgtggg ttcccaacca 120  
 ggggaaggggt cctttttgca ttgcgaagtg cctaaaccaa gacactact ctaccatggg 180  
 tctgcctcct ggccaagcag gctggtttgc aagaatgaaa tgaatgatte taccagctagg 240  
 actcaaccctt gaantggaaa gtcttgcact cctatttgcg ggatccgtct gtgcacatgc 300  
 ctctgtagag agcagccttc cuayggacgt tggaaacagt tggcactgta aggtccttgc 360  
 tccccaaaggc acatcctaaa aggtgtctga atggtgaaaa cgtcttctct ctttattgcc 420  
 ccttcttatt tatgtgaaca actgtctgtc ttttttcta ttttttttaa atgttaaagt 480  
 tcaacttguga aatgaatct catgcaacta aattatgcga ttttttttcc aagtaaaa 540  
 aaaaaa 557

<210> 385  
 <211> 337  
 <212> DNA  
 <213> Homo sapiens

<400> 385  
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 gtttctctag cagcagatgg gctaggagga agtgaccaca gtggttgart ctatgtgca 120  
 tctcaaggcc atctgtgtc ttcgagtang gacacatcat cactcctgca ttgttgatca 180  
 aaagctggag gtgcttttcc tccagctaaa agcctttagc aaaaagtcca atagacttga 240  
 tatcagacag gtccagtttc cgcaccaaca cttgctgggt cctgtcgtg gtctggatct 300  
 atttggccac caattccccc ttttccacat cccggca 337

<210> 386  
 <211> 300  
 <212> DNA  
 <213> Homo sapiens

<400> 386  
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 gccgctcgg ccccaaggggt gggcgcgggg ctgctctac cggctggcg ctgtaactca 120  
 gcgaccttgg ccgaaggct ctagcaaggc cccaccgacc ccagcccgcg cggcgggcggc 180  
 gggactttg cccggtgtgt gggcgggagc ggactgctg tccgaggacg ggcagcgaag 240  
 atgttagcct tcgtgcccag gaccgtgagc cgatcccagg gctgtggtgt aacctcagcc 300

<210> 387  
 <211> 537  
 <212> DNA  
 <213> Homo sapiens

<400> 387  
 gggccgaagt gggcaccag ggactcttct caggcttctt tcccgagat atcaaggctg 60  
 cccctctctg tggcatcatg atcagcact atgagtctgg caaaagcttc ttccaggggc 120  
 tgaaccagga cgggttctg ggcggctgaa aggggcaagg aggcaggac cccgtctctc 180  
 ccacggatgg gggaggggac ggaggagacc cagccaagtg ccttttctc agcactgagg 240  
 gagggggctt gtttctctc cctccggcg aaaaactcca gggcaggggc gtcctctctg 300

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ggggccccagc atttctctag acacaacttc ttcctgctgc tccagtctgt gggatcaton 360
cttaccnanc ccccaagtic aagaccnaat ctccagctg ccccttctgt gttccctgt 420
gtttgtgtga gctgggcatg tctccaggaa ccaagaaac ctcagcctgg tgtagtctcc 480
ctgaccttg ttaattctct aagtcctaac atgatgaact tcaaaaaaaa nnnnnnaa 537

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&lt;210&gt; 388

&lt;211&gt; 520

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 388

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aggataattt ttaaaccaat caaatgnaaa anacaacaa anaaaaagc aatgtcatg 60
tgagggttaa ccagttttga tcccttaat gtggaaaaag ttagaggact attcagcact 120
gtttgaagat tgcctcttct acagcttctg agaatgtgt tatttccctt gccagtgaa 180
ggaccccttc cccacatgc ccagccca ccttaagcat ggtcccttgc caccagga 240
ccaggaaact gctacttgt gactctacca gagaccagga ggggttggtt agctcacagg 300
acttcccttc cccagaaga tttagcatcc atactcagct cactactaac tcaactaggc 360
tctactcaa ttgatggta tttagcaatt ccatttcttt ttgggttctt taaacagaaa 420
atcttctct tctctattac cagttaaagg tcttggtatc ttctgttgg aatgattctt 480
atgaacttgt cttattttaa tgggtgggtt tttttctgtt 520

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&lt;210&gt; 389

&lt;211&gt; 365

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 389

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cgttgcctca gtttyacaga aggaagggcg gagcttattc aaagtctaga gggagtggag 60
gagtttaggc tggatttcag atctgcctcg ttccagccgc agtgtgacct ctgttccct 120
aargactttc caaatatct cccagcgcc tccagctca ggcgtctag aagcgtcttg 180
aagcctatgg ccagctgtct ttgtgttccc tctcaccgc ctgtcctca agctgagact 240
cccaggaaac ctctcagact ctttctctg ccttcagca ggggcttgc ccacattctc 300
tyagggctcg tggagaacc tagactccca ttgctagagg tagaaaggg aggggtgctg 360
gggag 365

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&lt;210&gt; 390

&lt;211&gt; 221

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... (221)

&lt;223&gt; n = A, T, C or G

&lt;400&gt; 390

```

tgctctctca tctctggccc gaattctctg tcaggaaagt ggggatggac cccatctgca 60
tacacggntt ctcatgggtg tggacatct ctgtcttggg ttccaggag gctctggct 120
gctctangay tctgancga nctgttgc cactntgaca naaggaaagg cggagcttat 180
traaagctca gaggagtg aggaagttag gctggatttc a 221

```

&lt;210&gt; 391

&lt;211&gt; 325

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(325)  
 <223> n = A,T,C or G

<400> 391  
 tggagcaggt cccgaggcct cccatagagcc tggggccgac tctgtgncg tgcangcttt 60  
 ctctcgcgcc cagcctggag ctgctcctgg catctaccaa caatcagncg aggcgagcag 120  
 tagcragggc actgctgcga acagccagtc cnnatccat catgtacccc ggtgngctct 180  
 ncauttgat ntrcanagcc ctacccatcn tagttctgct ctcccaccgg ataccagccc 240  
 cactgcccag gaatcctaca gccagtaccn tgtcccagcg tctctacctc ccagtacgat 300  
 gggacctcgg gctactacta tgacc 325

<210> 392  
 <211> 277  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(277)  
 <223> n = A,T,C or G

<400> 392  
 atallgctta actccttctt ttatatactt taacattttc atggngaaug gttccatctc 60  
 agtctcactt nggcnagcgn ctctactctg agtctcttcc ccggcctgmn ccagtngnaa 120  
 antaccngga accgncatgn cttaanaacc nctcggtttn tgggttnttc aatgacagca 180  
 tgcagtgcac caccctgtcc actaagtgat gctgtaggat taagttctca cagtgggcgg 240  
 ctgaggatcc aggcgcgcgt cctgtgttgc tggggaa 277

<210> 393  
 <211> 566  
 <212> DNA  
 <213> Homo sapiens

<400> 393  
 actagtccag tgtggtggaa ttgcggcccg cgtcgacgga caggtcagct gtcctggctca 60  
 gtgatctaca ttctgaagtt gtctgaaaat gtcttcatga ttcaattcag cctaaacgtt 120  
 ttgccgggaa cactgcagag acaatgctgt gaggttccaa ccttagccca tctgcgggca 180  
 gaggaggtct agtttgtcca tcagcattat catgatctca ggaactggtta ctctggttaag 240  
 gaggggctca ggaagatctgt cctctttaga gacaccttac ttataatgaa gtatttggga 300  
 ggggtggttt caaaagtoga aatgtcctgt attccgatga tcatcctgta aacattttat 360  
 catctattca tcatccctgc ctgtgtctat tattatattc abatctctac gctggaaact 420  
 ttctgcctca atgtttactg tgcctttgtr tttaactagt tgtgttgttg aaaaaaaa 480  
 catctctctg ctgagcttta attttctgta aaagttattt taactctata aattaaagc 540  
 ttttgcctat cggggggggg aaaaaa 566

<210> 394  
 <211> 384  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature



<222> (1)...(384)

<223> n = A,T,C or G

<400> 394

```

gaacatacat gtcgggggac ctgagctgca gtctgacatc atcgccatca cgggctctgc 60
tgcaaattns gaccggggcna aggcctggat gtggagcgt gtgaggggac tacaggccna 120
gcaggaggag cgggctttta ggagttttta gntgagtgto aotgtagacc ccaaatacca 180
tcccaagatt atcggggagaa aggggggcat aattacccaa atccggttgg agcatgacgt 240
gaacatccag tttcctgata aggacgatgg gggccagccc caggaccaaa ttaacatcac 300
agggtagcga aagaacacag aggcctggag ggatgctata ctgaggaattg tgggtgaact 360
tgagcagatg gtttctgagg acgt 384

```

<210> 395

<211> 399

<212> DNA

<213> Homo sapiens

<400> 395

```

ggcaaaaactg tgtgacatca atagacctc gcagatccaa ggtcaagtat caggaagtga 60
tctgacattg gactccaaga cctacatcaa cagcctggct atattagatg atgagccagt 120
tatcagaggt ttcatcatcg cggaaattgt ggagctcagc gaaatcatgg cctctgaagt 180
attcagctct ttcagtarcc ctgagttctc tatagagttg cctaacacag gccaattgg 240
ccagctactt gtctgcaatc gtatcttcaa gaataccttg gcctacccct tgactgacgt 300
caagttctct ctgggaagcc tgggcacatc ctcactacag acctctgacc atgggagcgt 360
gcagcctggt gagaccatcc aatcccaact aaatgcaac 399

```

<210> 396

<211> 403

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(403)

<223> n = A,T,C or G

<400> 396

```

tggagttntc agtgraaaca agccataaag ctccagtagc aaattactgt ctcaacagaa 60
gacattttca acttctgctc cagctgctga taaaaaact catgtgttga gcttgactcc 120
agacaaaggac aacctgttcc ttcataaact tctagagaaa aaaaggagtt gttagtagat 180
actaaaaaaa gttyatgaat aatctggata tttttcctaa aaagattccc tgaacacat 240
taggaaaatg gagggcctta tgatcagaat gctagaatta gtccattgtg ctgagagcag 300
gtttagggga yggagtgagg gataaaagaa gyaaaaaaag aagagtgaga aaacctattt 360
atcaaaagcag gtgctatcac tcaatgttag gccctgctct ttt 403

```

<210> 397

<211> 100

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(100)

<223> n = A,T,C or G

&lt;400&gt; 397

actagtnacg tgtgggtggag ttogcggcgg cgtcgaccta naanccatct ctctagcaaa 60  
 tccatuccey utcttggttg gtnacagaat gactgacaaa 100

&lt;210&gt; 398

&lt;211&gt; 278

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(278)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 398

gcccccgctt cgaragcagt ttccgcragcg ctgcgccttg ggtgggggatg tgcctgcacgc 60  
 ccacctggac atctggaggt cagcggcctg gatgaagag cggccttcac ctggggcgat 120  
 tccctactgt gctcagaca gtgaggagag ctggaccgac agcgagggtg actcattcatg 180  
 ctccgggccc cccatccacc tgtggcaglt cctcaggag ttgctactca agcccacag 240  
 ctatggcgcg ttcattangt ggttcaccaa ggagaagg 278

&lt;210&gt; 399

&lt;211&gt; 298

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(298)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 399

acggagggtg aggaagcgnc cctgggacag anaggatggg tccctgcatt gacnccctcn 60  
 ggggtgceng catggagcgc atgggcgcgg gctcgggccc cggcatggat cgcctgggct 120  
 ccgagatcga gcgcattggc ctgggtcatg accgcattgg ctccctggag cgcctgggct 180  
 ccggcattga gcgcattggc ccgttgggcc tcgaccacat ggctccanc attgancgca 240  
 tgggcccagc catggagcgc attggctctg gcgtggagcn catgggtgac ggcattggg 298

&lt;210&gt; 400

&lt;211&gt; 548

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 400

acatcaacta ctccctcatt ttaagggtatg gcagttcctt tcatccctct ttcctgcctt 60  
 gtacatgtac atgtatgaaa ttccctcttc ttaccgaact ctctccacac atcacagggt 120  
 caaagaacca cacgcttaga agggtaagag ggcaacctat gaaatgaat agtgatttct 180  
 tgaagtctct tttccacgt tcaaggggcn atggcaggac ttgaggttgc gaggtaagac 240  
 tgcagagggc tagagaatta ttccatacac gctttgaggc caccatgtc atttatcccg 300  
 tataccctct caccatccgc ttgtctactc tcatgcccgc aagatgcaac tgggcagcta 360  
 gttgggcccua taattctggg cctttgttgt ttgttttaat tacttgggca tccaggaag 420  
 ctttccagtg atctctaccc atgggccccc ctccctgggt caagccctc ccaggccctg 480  
 tcccccagccc ctctgccc agcccacccc cttgcttggg tgcctagccc tccattggg 540  
 agcaggtt 548

<210> 401  
 <211> 355  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(355)  
 <223> n = A,T,C or G

<400> 401  
 actgttttcca tgttatgttt ctacacattg ctacctcagf gctctctggaa acttagcttt 60  
 tgaatgtctcc aagtagtcca ccttcattta actctttgaa actgtatcat ctttgccaaag 120  
 taagagtggg ggcttatttc agctgtcttg acaaaatgac tggctcctga cttaaccttc 180  
 tataaattga tgtgctgaag caaagtgcgc atggtggcgg cgaagaagan aagatgtgt 240  
 ttgttttgg actctctgtg gtccttcca atgctgnggg ttcccaacca ggggaaggg 300  
 cctttttgca ttgccaagt ccataacct gaggactact ctaccatggg tctgc 355

<210> 402  
 <211> 407  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(407)  
 <223> n = A,T,C or G

<400> 402  
 atggggcaag ctgggtaaag aaccaagacc cactgggcta tgcgtctttc aagaacacca 60  
 tctccatgc ggtggcatat ataggctcaa actaaaggaa tggagaaaca tttttcaagc 120  
 aaatggaaaa cagaacaaag caggtgttgc actctactt tctgacaaaa cagactatgc 180  
 gaataaagat aaaaaagaga aggacattac aaaggtggtc ctgaccttg ataattctca 240  
 ttgcttgata ccaacccggg ctgttttant tgcacaaacc aaaggatata ttgtctgag 300  
 ttatggagct tctccctgc agagagtccc tgaatctcca aaatttgggt gagatgtaag 360  
 gntgatattg ctgacacctc ctttctctga gtttactca ttccaa 407

<210> 403  
 <211> 303  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(303)  
 <223> n = A,T,C or G

<400> 403  
 cagtatttat agcunaactg aagagctagt agcaggcaag tctcaaatcc aggcaccaa 60  
 tctcaagcaa gagcatggc atggtgaaaa tgcacaaagg gactctggcc aatctacaa 120  
 tagagaaaca gacctactca gtcctgaaca aaaggcaga caccacatg gatctcatgg 180  
 gggattggat attgttatta tagagcagga agatgacagt gatctcatt tggcacaaca 240  
 tcttaacaaa gaccgaaacc catctatcca ataacctcc atttggtaac catgttgaaa 300  
 gga 303

<210> 404  
 <211> 225  
 <212> DNA  
 <213> Homo sapiens

<400> 404  
 aagtgttaact tttaaaaatt tagtggattt tgaaaattct tagaggaaag taaaggaaaa 60  
 attgttlaaty uactcattta cttttacatg gtgaaagttc tctcttgatc ctacaaacag 120  
 acattttcca ctngtgtttc catagttytt aagtgtatca gatgtgttgg gcatgtgaat 180  
 ctccaagtgc ctgtgtaata aataaagtar cttkatttca ttcac 225

<210> 405  
 <211> 334  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(334)  
 <223> n = A,T,C or G

<400> 405  
 gagctgttat actgtgagtt ctactaggaa atcatcaaut ctgagggttg tctggaggac 60  
 ttcataacac ctccccccat agtgaatcag ctccaggagg gtccagtccc tctcttact 120  
 tcatccccat cccatgccaa aggaagacc tccctccttg gctcacagcc ctctctagge 180  
 ttcacagtgc ctccaggaca gactgggtta tgttttcagg tccatccttg ctgtgagtgt 240  
 ctggtgagggt tgtgcutca gcttctgtc agtgcttcat ggacagtgc cagccuatgt 300  
 caetctercac tctctcanng tggatccca ccc 334

<210> 406  
 <211> 216  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(216)  
 <223> n = A,T,C or G

<400> 406  
 ttccatacct aatgaggagg ttganatnac atnaaacag gaaatgcatg gatctcaany 60  
 gaaaacaaaca cccaataaac tcggagtggg agactgacaa ctgtgagaca tycatttgct 120  
 acnaaacana aattttnatgt tgcacccctg tttctaccc tgtgggttat gacaaagaca 180  
 actgcaazag aatnttcaag aaggaggact gccant 216

<210> 407  
 <211> 413  
 <212> DNA  
 <213> Homo sapiens

<400> 407  
 gctgacttgc tagtatcatc tgcattcatc gaagvacagg aacttcatgc cttyactcat 60  
 gtaaatgraa taggattaaa aaataaattt gatattcac tgaacacagc aaaaaatatt 120  
 gtacaaacatt gccaccagtg tcagattcta uacutggcca ctgaggagc agagattaat 180  
 cccagaggtc tatgtcttca tctgttatgg caaatggatg tcatgvacgt accttcattt 240

```

ggagaaattgt catttgteca tgcgacagtt gatacttatt cacatttcac atggggcaacc 300
tgccagacug gagaaagtct tcccatgtta aaagacattt attatcttgt tttcctgtca 360
tgggagttcc agaaagagtt aaaacagaca atggggcagg ttctgtagta aag 413

```

```

<210> 408
<211> 183
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1) ... (183)
<223> n = A,T,C or G

```

```

<400> 408
ggagctngcc ctraathccf ccatntctat gttaencatct ttaatgtctt ctgmnattaa 60
tncftaacta gttatctctt aaagggcten ntatctctta actagtcctt ccatgtgtag 120
cattatctct ccagtatctn ccttctnttt catttactuc ttctgtgcta ccatgttact 180
ntt 183

```

```

<210> 409
<211> 250
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1) ... (250)
<223> n = A,T,C or G

```

```

<400> 409
cccacgcatg ataagctctt tatttctgtc agtctgtcta ggaaatcatc aaatctgacg 60
gtgggtttgg ggactgaac aaacctctg taattaatca gcttccagt tctcccccta 120
gtctctctt caacaacata ggaggatctt cccctcttt ctgctcacgg ccttatctag 180
gcttccagt gccccagga cagcgtgggc tatgtttaca gcgntcctt gctggggggg 240
ggcmtatgc 250

```

```

<210> 410
<211> 306
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1) ... (306)
<223> n = A,T,C or G

```

```

<400> 410
ggctgggttg caagaatgan atgaatgatt ctacagctag gacttaacct tgaantggaa 60
agtcttgcaa tccattttgc aggatccgtc tgtgcacatg cctctgtaga gtagcgcatt 120
cccagggaac ttggaaacag ttggcactgt aaggtgcttg ctccccaga cacatcttan 180
aaggtgttgt aatggcgaac aacgcttccf tctttattgc ccttcttal ttatgtgaac 240
nactgattgg ctttttttgn atcttcttta aactggaaag ttcaattgng aaatgaata 300
tcntgc 306

```

<210> 411  
 <211> 261  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(261)  
 <223> n = A,T,C or G

<400> 411  
 agagatattc cttaggtnaa agtccataga gttcccctga actatatgac tggccacaca 60  
 ggaatctttt tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120  
 tttaaatgtc tgaatggaa cagatttcaa aaaaaaaccc ccaatctag ggtgggaa 180  
 aggaaggaaa gatgtgaata ggctgaggg ccaaaaacca atttaccat cagttcragc 240  
 cttctctcaa ggnaggcaa a 261

<210> 412  
 <211> 241  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(241)  
 <223> n = A,T,C or G

<400> 412  
 gtccaatgtt acrtgacatt tctacacac cccartcacc gatgtattcg ttgcccagtg 60  
 ggaacataac agcctgaatt tggaaaaaatt aattgtgttt ctgcccagg aactactacg 120  
 actgaatttg atggctccac aacataaac cagtgtaaa acagaagatg tggagggggg 180  
 ctgggagatt tccctgggtt cattgaattt ccaactaac cangcaatta ccagccaac 240  
 a 241

<210> 413  
 <211> 231  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(231)  
 <223> n = A,T,C or G

<400> 413  
 aactcttaca atccaagtga ctcatctgtg tgcttgaac ctttccactg tctcatctcc 60  
 ctcatccaag tctctagtae ctctctcttg ttgtgaaggc taatcaaat gaacacaaa 120  
 aagtttactc tctcatcttg gaactcaaa actctcttct tcttgggtct gagggtctcc 180  
 agaatccttg aatcanttct cagatcattg gggacaccan atcaggaacc t 231

<210> 414  
 <211> 234  
 <212> DNA  
 <213> Homo sapiens

```

<400> 414
actgtccatg aagcactgag cagaagctgg aggcacaaac caccagacac lcaacgcaag 60
gntggagctg aaaaacataac cactctcttc ctggaggcac tgggaagcct agagaaggct 120
gtgagccaag gagggagggg ctctcttttg catgggatyg ggatgaagta aggagagggg 180
ctggaccccc tggaaagctga ttcacctatg ggggaggtgt attgaagtc tcca 234

```

```

<210> 415
<211> 217
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> {1}...{217}
<223> n = A,T,C or G

```

```

<400> 415
gcataggatt aagactgagt atcttttcta cttctcttta actttctaa gggcacttct 60
caaaacacag accaggtagc aatctctcac tgcctaaagg nctctacac cactttctca 120
cacttagcaa tagtagaatt cagtctact tctgaggcca gaagaatggt tcaquaadat 180
antggattat aaaaatcac aactaagaaa aataatc 217

```

```

<210> 416
<211> 213
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> {1}...{213}
<223> n = A,T,C or G

```

```

<400> 416
atgcataatc aaaggaact gcttcgctt tagaagacat ctggactgct ctctgcatga 60
ggcaccagcag taaagctctc tcatccacag aatcaagaac ctctcccttc agactattac 120
cgaatgcaag gtggttcaat gaaggcact atttcatgt caaatagaag gttattgact 180
atattggaac agatggagtc tctactaca aag 213

```

```

<210> 417
<211> 303
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> {1}...{303}
<223> n = A,T,C or G

```

```

<400> 417
nagtctttag gcccatcagg gaagttcaca ctggagagaa gtcatacata tctactgtat 60
gtgggaagg cttactctg agttcaatc tccaagcaca tcaagagctc cactctggag 120
agaagccaca caaatgcaat gagtgtggg aagagcttcag gagggattcc cattatcaag 180
ttcatctagt ggtcacaca ggaagagaac cctataaatg tgaatattgt ggggaagggt 240
tcantcagag ttggtatctt caaatccttc agaaagacca cagtatanen aaacctttta 300
agt 303

```

<210> 418  
 <211> 328  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(328)  
 <223> n = A,T,C or G

<400> 418  
 ttttttggcgg tgggtggggga gggacggggac angagtctca ctctgttgcc caggctggag 60  
 tgcacaggca tgatctcggc tcactaccaac cctgtccctcc catgtccaaq cgattcttgc 120  
 gccctcagcct tccctgtatg tagaattaca ggcacatgcc accacaccca gctagttttt 180  
 gtatttttag tagagacagg gtttcacccat gttggccagg ctgggtctcaa actcctnacc 240  
 tcagnggtca ggctgggtctt aaactcctga cctcaagtga tutgcccacc tcaagctccc 300  
 aaagtgtctan gattacagga cgtgagcc 328

<210> 419  
 <211> 389  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(389)  
 <223> n = A,T,C or G

<400> 419  
 cctcctcaag auggcctgtg gtcgcctccc cggcaaccac gaagcctgca glgcccattatg 60  
 acccctgagc catggactgg agcctgaaag gcagcgtaca ccttgcctcc gatcttgctg 120  
 ctctgttccc ctctgtgggt ccatctatag cacagctgtt gcactgagga ttgtgcagga 180  
 ctagcaaggc caagctgggt caaaggagca ccagtcacct ctgcccaggt gtgccaggca 240  
 ccggttclcc agccacccac ctcaactcgt ccgcgaatg gcacatcagt tcttctaccc 300  
 taagggtagg accaaagggt atctgctttt ctgaagtcct ctgctctatc agccatracg 360  
 tggcagccac tchggctgtg tgcagcgg 389

<210> 420  
 <211> 408  
 <212> DNA  
 <213> Homo sapiens

<400> 420  
 gttcctccta actcctgcca gaaacagctc tctcaacat gagagctgca cccctcctcc 60  
 tggccagggc agcaagcctt agccttggtc tcttgtttct gctttttttc tggctagacc 120  
 gaagtgtact agccaaggag ttgaagtctg tgactttggt gtttcggcat ggagacccga 180  
 gtcccattga cacccttccc actgacccc taagggatc ctcatggcca caaggatttg 240  
 gccaactcac ccagctgggt atygagcagc attatgaact tggagagtat ataaggagga 300  
 gatatagaaa attcttgaat gactcctata aacatgaaca ggttctatct cgaagcacag 360  
 acgttgaccg gactttgatg aagtgcctatg acaaacctgg caagcccg 408

<210> 421  
 <211> 352  
 <212> DNA



<213> Homo sapiens

<220>

<221> misc\_feature

<222> {1}...{352}

<223> n = A,T,C or G

<400> 421

```
gctcaaaaat ctttttactg atnggcctgg ctacacaatc attgactatt acggaggcca 60
gagggagactg aggcctggcc tgggggacct gtgcctctca naagcacatt agattatcca 120
ttactgacaa gaacaggtct ttttgggtc cttcttctcc accacnatat acttgcagtc 180
ctcttctttg aagattcttt gguagttgtc ttgtctataa cccacaggtg tggaaacaag 240
ggtgcaacat gaattttctg ttctgtagca agtgcctgtc tacaagttg gcaagtctgc 300
cactccagat ttattgggtg ttgtttctct ttgagatcca tgcatttctt gg 352
```

<210> 422

<211> 337

<212> DNA

<213> Homo sapiens

<400> 422

```
atgccaccat gctggcaatg cagcggggcg tccaaggcct gcatatccag cccaagctgg 60
cgaatgacga cggcaaccat tgcocgaagt tgcctgctgc agccgaagcg gtggtcaagg 120
gcgatagcaa ggtgocggcg atcgcggcgg cgtcaatcct ggccaaagtc agcngl'gac 180
gtgaactggc agctgtcgaa ttgatctacc cgggttctgg catcgggcgg catcaagggt 240
atcgcacacc ggtgcaactg gaagccttgc agcggctggg gcgcgcgcgc attcaccgac 300
gcttcttctg ccggtacggc tggcttatga aaattat. 337
```

<210> 423

<211> 310

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> {1}...{310}

<223> n = A,T,C or G

<400> 423

```
gctcaaaaat ctttttactg atatggcatg gctacacatc cattgactat tayaggccag 60
aggagactga ggocctggct gggagccctg tgcctactan aagcncatta gattatccat 120
tactgacag aacaggtctt ttttgggtcc ttcttctcca ccagatata cttgcagttc 180
tcttcttga agattctttg gcagttgtct ttgtcataac ccacaggtgt anaaacagg 240
gtgcaacatg aaattttctg ttctgtagca gtgcctgtct cacagttgtc aagtcctgcc 300
tccgaattta 310
```

<210> 424

<211> 370

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> {1}...{370}

<223> n = A,T,C or G

&lt;400&gt; 424

```

gctcaaaaat ctcttctactg ataggcatgg ctacacaatc attgactatt agaggucaga 60
ggagaaatgag guctggcctg ggagccctgt gctactaga agcacattag attatccatt 120
cactgacaga acaggtcttt tttygggtctt ccttctccac cactgatatac ttgcaagtct 180
ccttctttaa gattcttttg cagttgtctt tgcataaac caccaggtga gaacatcct 240
ggttgaatct cctggaaactc cctcattagg tatgaattag catgatgcat tgcataaagt 300
caccgaaggtg gcaaaagatca caacgctgac cagganaaca ttcatgtga taagcaggac 360
tccgtcgaag

```

370

&lt;210&gt; 425

&lt;211&gt; 216

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(216)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 425

```

aattgctatn ntttattttg cactcaaaa caattaccaa aaaaaaaaa tnttaaatga 60
taacaaacca acatcaaggc aaaaaaaaca ggaatggntg actntgcata aatngggccga 120
anattatcca ttatnttaag ggttgacttc agntacagc acacagacaa acatgcccag 180
gaggntntcn ggaacgctcg atgtntcttg aggagg

```

216

&lt;210&gt; 426

&lt;211&gt; 596

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 426

```

cttcagtgga ggaacaccc tttgccccgg gccgaggttc tccattaggc ctgattgat 60
tggcagtcag tgatggaagg gtgttctgat cattccgact gcccaaggc tgcctggcca 120
gctctctgtt ttgctgaggt ggcagtagga cctaatctgt taattaagag lagatngtga 180
gctgtccttg tattttgatt aacctaatgg ccttcccagc ccgactcgga ttccagctga 240
gacatcacgg caacttttaa tgaatgatt tgaagggcca ttaagaggca ctcccggtta 300
ttaggcagtt catctgcact gataactctt tggcagctga gctggtcgga gctgtggccc 360
aaacgacac ttggcctttg gttttgagat acaactctta atcttttagt catgcttgag 420
ggtagatggc cttttcagct ttacacaaat ttgactgcc ttggaagtgt agcaggaga 480
atacartcar atactcgtg gcttagaggc caccagagat gtcat.tggtc taactgctga 540
gtcccgctgg tcccatccca ggaccttcca tcggcgagta cctgggagcc cgt.gct 596

```

&lt;210&gt; 427

&lt;211&gt; 107

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(107)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 427

```

gaagaattca agttaggttt attcaagggt ctlaagagga atctananc caggacccag 60

```

cccgaggagca gccttanaga gctccctttt gactgcccgg ctcaagng

107

<210> 428

<211> 38

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(38)

<223> n = A,T,C or G

<400> 428

gaatttcma ankangactt tattcactat ttacacatt

38

<210> 429

<211> 544

<212> DNA

<213> Homo sapiens

<400> 429

ctttgtctgga cggaaataaa gtggacgcaa gcattgacctt ctgattgaggg cgcctgcattt 60  
attgaagagc ggcctgcagcc ctgcgggttca gatttaaaatc cgagaatttgt atagacgccc 120  
atatccacga actcctgaag gctttcttga ttctatccaca atccaaatcat cggcttttcag 180  
tttggatggt ggcctcatenc ctgtagaacc tgccttggcc gtggctggaa tccactcgtt 240  
gccttcccat tcagttacac ctgactcacu atcctctcct gtlgggtctg tgcctgttca 300  
agatactaag cccacatttg agatgcagca ggcattcccc ccaattcctc ctgtccatcc 360  
tgatgtgcag ttaaaaaatc tgccttctta tgcctctctt gattgttctc tcaagcctcc 420  
gagtttagtt caaagcagta ttacgcgatt tcaagagaaq ttttttattt ttgctttgac 480  
acctcaacaa gttcagagaga tatgcataic cggggatttt ttgccagggt gtaggagaga 540  
tcat 544

<210> 430

<211> 507

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(507)

<223> n = A,T,C or G

<400> 430

cttatcncaa tggggctccc aaacttgggt gtgcagtggg aactcggggg gaattttgaa 60  
gaacactgac acccatcttc caccrcgaca ctctgattta attgggctgc agtgagaaca 120  
gagcatcaat ttaaaaagct gccagagatg ttntcctggg cagcgttctg atcttctgcn 180  
ccttngtgac ttctatgcaat gcattcatgct atttcatacc caatggggga gttccaggag 240  
attcaaccag gatgtttcta cncctgtggg ttatgacaaa gacaactgac aaggaatntt 300  
caagcaggag gactgcaagt atatcgtggt gyagagagaag gacccaaaaa agacctgttc 360  
tgtcagtga tggataatct aatgtgcttc tagtaaggcc agggctcccc gyucaggcct 420  
cattctcttc tggcctctaa tagtcaatga ttgtgtagcc atguetatca gtaaaagat 480  
ttttgagcaa aaaaaaaa aaaaaa 507

<210> 431

<211> 392

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(392)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 431

```

gaaatctcag aatggataaa aacaaatgaa gtacaaata ttccagattt aatagcgat 60
aaacaagaaa gcacttatca gagggaacta caaatggagg tacaactctan aaccatcctc 120
tatcatggct aatgtgaga ttagnacagc tgtattattt gtacattgca aavacctaga 180
aagagatggg aaacaaatc ccaggagttt tgggtgtggg gtccctgggt ttccaacaga 240
catcatttca gcattctgag attagggngg tcygggatca ttctggagtt ggaatgttca 300
acaaaagtga tgttgttagg taaaatgtac aacttctgga tctatgcaga catggaaggt 360
gcaatgagtc tggcttttac tctgtgttcc ct

```

392

&lt;210&gt; 432

&lt;211&gt; 387

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(387)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 432

```

ggtatccta cabaatcaca tatagctgta gtacatgttt tcattggngt agattaccac 60
gaatgcaagg caacatgtgt agatctcttg tattattctt ttgtctataa tactgtattg 120
ngtagtccaa gctctcggna gtccagccac tnggaacat gctcccttta gatlaacctc 180
gtggacnctn ttgttgnatt gtctgaacty tagngccctg tatcttgctt ctgtctgnga 240
attctgttgc ttctggggca ttctcttngg atgcagagga ccaccacaca gatgacagca 300
ctctgaattg ntccaatcac agctgcgatt aagacatact gaaatcgtao aggaccggga 360
acaacgtata gaacactgga gtcccttc

```

387

&lt;210&gt; 433

&lt;211&gt; 281

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(281)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 433

```

ttcaactagc anagaaact gcttcagggn glgtanuatg aaaggcttcc acgcagttat 60
ctgattaaag aacactaaga aggggacaaag gctagaagcc gcaggatgtc tacactatag 120
caggcnctat ttgggttggc tggaggagcl gtggaaaca tggagagatt gggctggag 180
atcgctgtgg ctatcctcn ttgntattac accagnaggy ntctctgnt gcccactggg 240
tnnaaaccy ntatacaata atgatagaaat aggacacaca t

```

281

&lt;210&gt; 434

&lt;211&gt; 484

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 434

```

tttctaaata  aguatattagt  gctcagttcc  tactgggtac  tctttctctc  ccttctcttg  60
aatttaattc  ttccaacttg  caabcttgaa  ggattacaca  tttcactctg  atgtatactg  120
tgtctgcaaa  aaaaaaaagt  gtctttgttt  aaaaattact  ggtttgtgaa  tccatcttgc  180
tttttcccca  ttggaaactg  tcatbaaccc  atctctgaac  tggtagaana  acatctgaag  240
agctagttta  cuagcatctg  acaggtgaat  tggatgggtt  tcagaaccat  ttcacccaga  300
cagcctgttt  ctatcctgtt  taataaatta  gtttgggttc  tctacatgaa  taacaaaccc  360
tgctccaaat  tgcacataaa  aagtcctgtg  cttagagttt  agtcagcacc  ttcacccaac  420
tttatttttc  tatggttttt  ttgcaacata  tgagtgtttt  gaaataaag  tcccatgtc  480
tcta

```

484

&lt;210&gt; 435

&lt;211&gt; 424

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 435

```

gcgcgcgtca  gaggcaggta  ctttctgctt  tccaghtcct  ccttcaggga  agccccatgt  60
gggtagcttc  caatategca  gggtcttact  cctutgcttc  tataagctca  aacccaccaa  120
cgatcgggca  agtaaacccc  ctccctcgcc  gacttcggaa  ctggcgagag  ttcagcgcag  180
atgggacctt  ggggaggggg  caagatagat  ggggaggagc  ggcatgggtc  ggggtgaccc  240
cttgagagaa  ggaanaaggc  caaanagagg  gctgccaccg  cactaacgg  agatggccct  300
ggtagagacc  ttgggggttc  tggaaacctt  ggactcccca  tgctctaact  cccacactct  360
gctatcagaa  acttaaaact  gaggattttc  tctgtttttc  actngcaata  anttcagagc  420
aaac

```

424

&lt;210&gt; 436

&lt;211&gt; 667

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1) ... [667]

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 436

```

accttgggaa  nactctcaca  atataaaggg  tcttagactt  tactccaaat  tcaaaanagg  60
tcttggccat  gtatctctta  aagttttccc  aaggtagcta  taaaatcctt  ataagggtgc  120
agctctctct  ggaattcttc  tgatttcaaa  gtctcactct  caagtctctg  aanaagaggg  180
cagttcctga  aaggcaggta  tagcaactga  tcttcagaaa  gaggaactgt  gtgcacccgg  240
atgggctgcc  agagtaggat  agyatttcag  atgtgacac  ctctcggggg  aacacagggc  300
gccaggcttg  tcatagcaat  catcaaagtc  cggctcaaug  ctgtgcttcg  aatataaacc  360
tgttcatgtt  tataggactc  attcaagaat  tttctatatc  tctttcttat  atactctcca  420
agttcctaatt  gctgctccat  gccaggctgg  gtgagttggc  caaatccttg  tggccatgag  480
gattccttla  tggggtcagt  gggaaagggt  tcaatgggac  ttgggtctcc  atgccgaacc  540
acraaagtca  caaacttcaa  ctucttgggt  agtaracttc  ggtctagcaa  gaaaaaagc  600
agaaacaaag  agcaaaaggc  aaggcttgc  gtccttgcaa  gaggaggggt  gcaqtctcca  660
tgttgag

```

667

&lt;210&gt; 437

&lt;211&gt; 693

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 437

```

ctacgtctca accctcattt ttaygtatgg aatcttaagl ccaagatat taagtgaacc 60
acacagccag gtaaggaaag ctggattggc acactaggac tctaccatac cgggttttgt 120
taagctcag gttaggaggc tgaataagctt ggaaggaaat ccagacagct ttltccagatc 180
ataaagata attcttagcc catgtttctt tccagagcag acctgaaatg acagcacagc 240
aggtactcct ctattttcac cctctttgct tctactctct ggcagtcaga cctgtgggag 300
gccctgggag aaugcagctc tctggatglt tctacagatc atggactatt ctctgtggac 360
cattttctca ggtcacctc ggtgtcacta ttgggggggac agccagcacc tttagctttc 420
atttgagttt ctgtctgtct ccagttaggg aaacttttgc tcttcacact tccatclga 480
acacctaaat gctgttgctc ctgaggtggg gaaagacaga tatagagctc acctatttta 540
tctattttct aggaactgag ggctgtgggg taacttctgg tgncaaaaca gactctgttt 600
taaggacatg ttgcttcaga gatgtctgta actatctggg ggtctgtgtg gctctttacc 660
ctgcatcatg tggctctctg gctgaaaatg aac

```

693

&lt;210&gt; 438

&lt;211&gt; 360

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 438

```

ctgcttatca caatgaatgt tctctgggc agcgttgtht tctttgccac ctctgtgact 60
ttatgcattg catcatgcta ttcatacct aatgagggag ttcagagaga ttcaaccagg 120
atgtttctac acctgtgggt tatgcctaa agcaactgcc aagantcttc aagaggagg 180
actgcaagta tctctggtg agaagaagg cccaaaaaag acctgttctg tcaagtgaatg 240
gataatctaa tgtgtttcta gtgggcacag ggctcccagg ccaaggcctca ttctctctg 300
gctcttaata gtccataatt gtgtagccat gccatcagt aaaaagattt ttgggcaaac 360

```

&lt;210&gt; 439

&lt;211&gt; 431

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(431)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 439

```

gttcttntta actcctgcc aaaaacagctc tctcaacat gagagctgca cccctctctc 60
tggccagggc agcaaggcctt agccttggct tcttgtttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtctg tgactttggt gtttcggcat ggagacccaa 180
gtcccattga cactttccc actgacccca taaaggatc ctcctggcca caaggatttg 240
gccaaactca ccagctgggc atggagcagc attatgaact tggagagtat ataaayaaaga 300
gatatagaan attcttgaat gactcctata aacatgaaca ggtttatatt cgaagcaong 360
acgttgaccg gactttgatg agtgcctatg caaacctggc agcccgctca cgcggccgag 420
aatttagtag t

```

431

&lt;210&gt; 440

&lt;211&gt; 523

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 440

```

agagataaag cttaggtcaa agttcataga gtcccatga actelatyac tggccacaca 60
ggatcttttg tatttaagga ttctgagatt ttgcttgaac aggattagat aaggtgttc 120
tttaattgtc tgaattggaa cagatttcaa aaaaaaaccc cacaalcctag ggtgggaaca 180
aygaaggaaa gatgtgaata ggctgattgg caaaaaacra atttaccat cagtccagc 240
cttctctcaa ggagagggca agaaaggaga taaggtggag acatctggaa agtctctctc 300
actggaaaac tgcactatc tgtttttata tttctgttaa attatattgag gttacagaac 360
taaaattta aactttacag aagatttga tctatgtat acatatagca gctottgaag 420
tatatatac atagcaata agtcattcga tgganacaag cta 523

```

&lt;210&gt; 441

&lt;211&gt; 430

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 441

```

gttcttctca actcctgcca gaaacagctc tctcaacat gagagctgca cccctctctc 60
tggucagggc agcaagcctt agccttggct tcttgttct gtttttttc tggctagaac 120
gaagtgtact agccaaggag ttgaagtttg tgaacttggg gtttggcat ggagacgaa 180
gtccatttga cacttttccc actgaaccca taaaggaaat ctcattggca caaghatttg 240
gccaactrac ccagctgggc atggagcagc attatgaact tggagagtat atagaaaga 300
gatctcgaaa attcttgaat gagtctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgalt agtgcattga caaacctggc agccctcga agcgccgcg 420
aatctcgtcg 430

```

&lt;210&gt; 442

&lt;211&gt; 362

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 442

```

ctaagggaatt agtagtgctc ccatcacttg ttggagtyt gctattctaa aagattttga 60
tttcttggaa tycanattat attttaactt tggtagggga aagagttata ggaccacagt 120
cttacttctt gatacttgta attaatctt ttattgact tgttttgacc attaatgat 180
atgttttagaa atggtcattt ttaggaaaaa ttgaaaaat tctgataata gtgcagaata 240
aatgaattaa tgttttactt attttatatt gaactgttaa tgacaaataa aaattctttt 300
tgatcatttt ttgttttcat ttaccagcat aaaaactaag aattaaaagt ttgatcacag 360
tc 362

```

&lt;210&gt; 443

&lt;211&gt; 624

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(624)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 443

```

tttttttttt gaaaacacaat atacalcaca gtgaatgtg caatccttgc aaattgcaag 60
ttgaazagaat taaatccaga ggaggggaga gaaggaatc tcagttagga ctgagcacta 120
aatgcttatt ttanaagaaa tgaaggagc agaaagcaat tgaagctacc ctgctttttg 180
tgcctggctag tactcgggtc ggtgtcagca gcacgaggaa ttgaacattg caattctggag 240

```

```

cccaaacac agaaatggg gtgaattcgg ccaactttct attaacttgg ttctctgttt 300
tataaattat tttgaattat atcacctact tcaaaaggga gttatgaggg ttaaatganc 360
taacgctac aaaaacattt aacatagata acataggtgc aagtactctt tatctggtac 420
atggttaaaa tctttattat taaggtcaac gctaaaatga atgtgtgtgc atatgcta 480
agtacagaga gagggcactt aaaccaaata agggcctgga gggaagggtt ctgggaaaga 540
ngatgcttgt gctgggtcca aatcttgggc tactalgaac ttggccaaat taatttaact 600
ttgtccctat ctgctaaaca galc

```

624

&lt;210&gt; 444

&lt;211&gt; 425

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(425)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 444

```

gcacatcatt nntcttgcct tctttgagaa taagaagatc ayttaantagt tcagaagtgg 60
gaagctttgt ccaggcctgt gtgtgaaccc aatgttttgc ttagaatatg acaagtaag 120
ttcattgcta tagcataaaa caaaatttgc ataagtggta gtacagcaat ctttgaalgc 180
tqcttaattgt gagaggttgg taaaatcctt tgtgcacac tctaactccc tgaatgtttt 240
gctgtgctgg gacctgtgca tgcacagaca ggccaagctg gctgaagaag caaccagcca 300
cccttgcact ctgccaactc ctgctggcag gatttgtttt tgcatacctgt gaaggagcaa 360
ggaggcacca gggar.aagt gaagtgaact atggtcgacg aggcgcgcaa tctagtagta 420
gtaga

```

425

&lt;210&gt; 445

&lt;211&gt; 414

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(414)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 445

```

catgtttatg nttttggatt actttgggga cctagtgttt ctaaatcgtc tatcattctt 60
ttctgttttt caaaagcaga gatggccaga gtctcaacaa actgtatctt caagtctttg 120
tgaatttctt tgratgtggc agattatttg atgtagtctt cttaactag catatnaatc 180
tgggtgtgttt cagatnaatg aacagcaaaa tgtgggtggaa ctaccatttg gaacattgtg 240
aatgaaaaat tgtgtctcta gattatgtaa caaataacta ttctctaacc attgatcttt 300
ggatttttat aatcctartc acaaatgact aggccttctcc tcttgtattt tgaagcagtg 360
tgggtgctgg attgataaaa aaaaaaaaag tcgacgcggc cgggaattta gtat

```

414

&lt;210&gt; 446

&lt;211&gt; 631

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(631)



<223> n = A,T,C or G

<400> 446

```

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taactcaag ggagcatgtt ccacagtggc tggactaccg agagcttggg utacacaata 480
cagtatcata gacaaagaa caagacaaga gatctacaca cyttgcttg catllytgg 540
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aatagratatc abtgtctcga tgttttttct g 631

```

<210> 447

<211> 585

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> {1}... (585)

<223> n = A,T,C or G

<400> 447

```

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cctgggcatt taatctgaa agttttccc aggtagctat aaaatctta taaaggtgca 120
gctctctctg gaattctctt gatttcaag tctactctc aagttcttga aaacgagggc 180
agttcctgaa aggcaggtat agcaactgat ctccagaaag aggaactgtg tgcacuggga 240
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gttcatatg ctgctccatg cccagctggg tgaattgggc aaatccttgt ggcatgagg 480
attcctttat ggggtcagtg ggaaggtgt caatgggact tgggtctcca tgcgaaaca 540
ccaaagtcac aaattcaac tcttggcta gfacacttgg gtcta 585

```

<210> 448

<211> 93

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> {1}... (93)

<223> n = A,T,C or G

<400> 448

```

tactctggg tcatctgan nncggactg acctgcccag ccttgcggan gggucnccat 60
ggctccctag tgccttggag agganggggc tag 93

```

<210> 449

<211> 706

<212> DNA

<213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> {1}...{706}  
 <223> n = A,T,C or G

<400> 449  
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 ttctgancac cgaactgacc atgccagccc tgccgatggt cctccatggc tccctagtgc 120  
 crtggagagg aggtgtctag tcagagagta gtccctggaag gtcgctctctg ngaggagaca 180  
 cggggacagc atcctgcaga tggtcgggag cgtcccattc gccattcagg ctgcgcaact 240  
 gttgggaagg gcgacgggtg cgggcctctt cgtattttag ccagctggcg aaagggggat 300  
 gtgctgcagc gcgattcaag tgggtaangc cagggttttc ccagtcncgc cgttgtaaaa 360  
 cgacggccag tgaattgaat ttcggtgacn ctatagaaga gctatgacgt cgcattgcag 420  
 cgtacgtcaq cttggtatct ctagagcggc cgcctactac tactaaatc gcgggcgcgt 480  
 cgacgtggga tccncaactga gagggtgag agtgacatgt gctggacnct gtccatgaaq 540  
 caatgagcag aagctggagg cacaacgcnc cagcactca cagctactca ggaaggctgag 600  
 aacaggttga acctgggagg tgggagttgc aatgagctga galcagggcn ctgncccc 660  
 gcatggatga cagagtgaaa ctcactctta aaaaaa aaaaaa 706

<210> 450  
 <211> 493  
 <212> DNA  
 <213> Homo sapiens

<400> 450  
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 acagttttta aaggtaaaaa aacataaaaa gaaalatcct atagtggaaa taagagagtc 120  
 aaatgaggtc gagacttta caaagggatc ttacagacat gtgcgcata tcaactgcag 180  
 agcctaagta taagaaacac ctttggggag aaacacatct ttgacagtga ggtacaattc 240  
 caagtcaagt agtgaaatgg gtggaattaa actcaaatc atcttgccag ctgaacgca 300  
 agagacactg tcagagagtt aaaaagttag ttctatccat gagggtgatc cacagctctc 360  
 tcaagtcacac acatctgtga actcacagc caagttctta aaccactgtt caaactctgc 420  
 tacacatcag aatracctgg agagttttac aaactcccat tgccgagggt cgaagcggcc 480  
 gcaaatctag tag 493

<210> 451  
 <211> 501  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> {1}...{501}  
 <223> n = A,T,C or G

<400> 451  
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 ctcttcgcta ttacggcagc tggcgaaagg gggatgtgct gcaaggcgat caagttgggt 120  
 aacggcaggg ttttcagggt cncgacgttg taaaangcag gccagtgant tgaattcayg 180  
 tgacnctata gaagagctat gacgtcgcat gvacgcgtac gtaagntlga atcctctaga 240  
 ggggcgcct actactacta aattcgcggc cgcgtcgagc tgggatccnc actgagagag 300  
 tgggagagtg catgtgctgg acnctgtcca tgaagcactg agcagagagc ggaagtcacaa 360  
 cgcncacagc actcacagct actcaggagg ctgagacagc gttgaaacctg ggagggtgag 420  
 gttgcactga gctgagatca ggcncctgcr cccagcactg gatgaragag tgaactcca 480

tcttaaaaaa aaaa00000000 A

501

&lt;210&gt; 452

&lt;211&gt; 51

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(51)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 452

ggaggggttt accnttacc aaccttttag gatgggnntt ggggagcaag c

51

&lt;210&gt; 453

&lt;211&gt; 317

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(317)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 453

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 acatctgaag agctagtctc tcagcatctg gcaagtgaat tggatgggtc tcagaaccat 120  
 ttaccccane gaagcctgtt ctatcctgtt taalaatta gtttgggttc tctacatgca 180  
 taacaaaccc tgcctcaatc tgcacatca aagtctgtga cttggaagtt antcagcacc 240  
 cccaccasac ttatatttct tatgtgtttt ttgcaacata tgaagtgttt gaaatcagg 300  
 taaccatgtc tttatta 317

&lt;210&gt; 454

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 454

ttggagggtac aatcaacttc caggcgttag tttcttcta tagatgagtc agcattaata 60  
 taagcaccgc caagctcttg aaggagtctt gaattctcct ctgtcactc agtagaacca 120  
 agaagacca atctctctgc atccagctt gcacacaaaa ttgtctctc aggtctcacc 180  
 ccttctcttt tcagtgttcc aaagctcctc acaatttcac gaacaacagc t 231

&lt;210&gt; 455

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 455

taccaaagag ggcataata tcagtctcac agtaggggtc accatctctc aagtgaacaa 60  
 cattgttccg aatggggttt ccacaggcta cacacacaaa acagggaaca tgccaagttt 120  
 gtttcaargc attgatgact tctccaagga tcttcttly gcacagacca cattcagggg 180  
 caaagaattt ctcatagcac agctcaaat acagggtctc tttctcctct a 231

<210> 456  
 <211> 231  
 <212> DNA  
 <213> Homo sapiens

<400> 456  
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 ctccattccg tattatcggt atctattcttg gagaaacct gtctgtttac tgtaaccttt 120  
 tgcactcaaa ttccctttatc aggnataact acctaggcac catttacaaa ggcattggaa 180  
 cctttttatt tgggtgcagct gctagtccgt ccttgactga cattgccaag t 231

<210> 457  
 <211> 231  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(231)  
 <223> n = A, T, C or G

<400> 457  
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 catttgattt tatttagcaat ctctttcaga agaccttga gatcatttag ctctgtatcc 180  
 agttgtctaa atcgatgctt catttccctt gaggctctgc tggcttctgc n 231

<210> 458  
 <211> 231  
 <212> DNA  
 <213> Homo sapiens

<400> 458  
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 agaagagggg tggattaggga agcrgttgag acctgaagcc ccacctcta ccttccctca 120  
 acaccctaac ctggggtaac agcatttggg attatcattc ggyatgagta gaatttccaa 180  
 ggtcctgggt tgggcatttt gggggggccag acccaggag aagaagcttc t 231

<210> 459  
 <211> 231  
 <212> DNA  
 <213> Homo sapiens

<400> 459  
 ggtaccgagg ctgctgaca cagagaaacc ccaacgcgag gaaaggaatg gccagccaca 60  
 ccttcgcgaa acctgtggtg gccacacagc cctaacggga caggacagay agacagagca 120  
 gccctgcact gtttctcttc caccacagcc atcctgtccc tcattggctc tgtgcttcc 180  
 actatacaca gtacccgtcc caatgagaaa caagaaggag cccctccac a 231

<210> 460  
 <211> 231  
 <212> DNA  
 <213> Homo sapiens

<400> 460

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gcagggtatga catgctgcga caacagatgt gactaaggac ggccggggac atggggaggg 60
cctatcacc cttcttggg gactgcttct tcacagtgat catgaagcct agcagcaaat 120
ccacactccc cccacgcaca cggccagcct ggagccccaca gaagggtcct cctgacgcca 180
gtgggagcttg gtccagcctc caglcacccc ctaccaggct taaggataga a 231

```

&lt;210&gt; 461

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 461

```

cgagggtttga gaaactctaa tctgcaagggt agccgagaag caggcuygct agggagggtc 60
gcgtgtgtct cagaaagagt tgtgcatgnc agaggggaaa caggcgcttg tgtgtcctgg 120
gtgggggttca gtgaggagtg ggaatttggg tcagcagaac caagcccttg ggtgaataag 180
aggggggattc catgguactg atagagcctt atagtttcag agctgggaat t 231

```

&lt;210&gt; 462

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 462

```

aggtaccctc attgtagcca tgggaaaatt gatgttcagt ggggatcagt gaaltaaatg 60
gggtcatgca agtataaaaa ttaaaaaaaa agtaattcat gcccaatctc atatgatgtg 120
gaagaactgt tagagagacc aacagggtag tgggttagag attccagag ccttacattt 180
tctagaggag gtatttaatt tttttcact cctccagtgt tgtatttagg a 231

```

&lt;210&gt; 463

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 463

```

tactccagcc tgggtgacaga gggagaccct atcaccggcc cccacccccc caaaaaaaaa 60
actgagtaga caggtgtcct cttggcatgg taagtcttaa gtccctccc agatctgtga 120
catttgacag gtgtctttc ctctggaccc cgggtgtccc atctgagtga gaaaagacag 180
tggggagggtg gatcttccag tcgaagcggc atagagccc gtgtgaaaag c 231

```

&lt;210&gt; 464

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 464

```

gtactctaaag attctatcta agctgccttt tctgggtggg aaagttaaac cttagtgact 60
aaggacatca catatgaaga atgtttaagc tggagggtgg aacgtgaatt ycaaacaggg 120
cctgtctcag tgaactgttg cctgtagtc cagctcttg ggagtctgtg tgagggcagg 180
gggtgcagcg caccagctag atgctctgta attctaggc cccattttcc c 231

```

&lt;210&gt; 465

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 465

```

catgttattg tagctgtggt aatgctgggt gcattctcaga cagggttacc ttccagctcct 60
gtggcaaatt agcaacaaat tutgacata tatttatggg ttctgtatct ttgttgatga 120
aggatggcac aatttttggc tgtgttcata atatactcag attagttcag ctccatcaga 180
taaaactggag acatgcagga ctttagggta gtgttgtagc tctagtaantg a 231

```

&lt;210&gt; 466

&lt;211&gt; 231

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 466

```

caggtacctc tttccattgg atactgtgct agcaagcatg ctctccgggg tttttttaat 60
ggccttcgaa cagaacttgc cacatcccca ggtctaatag tttctaacct ttgccaggga 120
cctgtgcaat caaatattgt ggaqaattcc ctactgggag aagtcacaaa gactctagtc 180
aatcatggag accagtcacca caagatgaca accagtcgtt gtgtcgggct g 231

```

&lt;210&gt; 467

&lt;211&gt; 311

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 467

```

gtacacccctg gcacagtcga atctgaactg gttcgggact catctttcat gagatggatg 60
tggcggcttc tctccttttt catcaagctt cttcagcagg gagcccgagc cagcctgcac 120
tgtgccttaa cagaaggctct tyagattcta agtgggaatc atttcagtga ctgtcatgtg 180
gcctgggtct ctgcccaagc tctaatgag actatagcaa ggcggctgtg ggaagtcagt 240
tgtgacctgc tgggctccc aatagactaa caggcagtcg cagttggccc caagagaaga 300
ctgcagcaga c 311

```

&lt;210&gt; 468

&lt;211&gt; 3112

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 468

```

catttgtgtg ggagaaadaa agaggggaga ttgtgtggc tgcagccgag ggagacccagg 60
aagatctgca tgggtgggaag garctgalga tacagagttt gataggagac aattaaaggc 120
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```

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&lt;210&gt; 469

&lt;211&gt; 2229

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 469

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aagtatatta	tataagatac	tatgaggttc	cctgaccttg	cttcacatcc	cagggttaca	300
aaagtgcccc	ataaacattc	cctctgtggc	tcttgcaatt	catatatttn	tctaaactct	360
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agagacaaag	aaagagcttct	caggcagaag	aatatattga	tgcctgacat	gttcaaggaa	540
ttacaagtta	gattt.tgllt	aggtgcacgg	gaggggttga	tgggtgatgac	agalaaggtct	600
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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>7</sup> :</b> <b>C12N 15/12, C07K 14/47, C12Q 1/68, A61K 39/395, G01N 33/68, 33/574, C07K 16/30, C12N 15/62, 5/02 // A61P 35/00</b>	<b>A3</b>	<b>(11) International Publication Number:</b> <b>WO 00/04149</b> <b>(43) International Publication Date:</b> 27 January 2000 (27.01.00)																					
<b>(21) International Application Number:</b> PCT/US99/15838 <b>(22) International Filing Date:</b> 14 July 1999 (14.07.99)  <b>(30) Priority Data:</b> <table border="0" style="width: 100%;"> <tr> <td style="width: 30%;">09/115,453</td> <td style="width: 40%;">14 July 1998 (14.07.98)</td> <td style="width: 30%;">US</td> </tr> <tr> <td>09/116,134</td> <td>14 July 1998 (14.07.98)</td> <td>US</td> </tr> <tr> <td>09/159,822</td> <td>23 September 1998 (23.09.98)</td> <td>US</td> </tr> <tr> <td>09/159,812</td> <td>23 September 1998 (23.09.98)</td> <td>US</td> </tr> <tr> <td>09/232,880</td> <td>15 January 1999 (15.01.99)</td> <td>US</td> </tr> <tr> <td>09/232,149</td> <td>15 January 1999 (15.01.99)</td> <td>US</td> </tr> <tr> <td>09/288,946</td> <td>9 April 1999 (09.04.99)</td> <td>US</td> </tr> </table> <b>(71) Applicant:</b> CORIXA CORPORATION [US/US]; Suite 200, 1124 Columbia Street, Seattle, WA 98104 (US).  <b>(72) Inventors:</b> DILLON, Davin, Clifford; 21607 N.E. 24th Street, Redmond, WA 98053 (US). HARLOCKER, Susan, Louise; 6203 20th Avenue N.W., Seattle, WA 98107 (US). YUQIU, Jiang; 5001 South 232nd Street, Kent, WA 98032 (US). XU, Jiangchun; 15805 S.E. 43rd Place, Bellevue, WA 98006 (US). MITCHAM, Jennifer, Lynn; 16677 Northeast 88th Street, Redmond, WA 98052 (US).		09/115,453	14 July 1998 (14.07.98)	US	09/116,134	14 July 1998 (14.07.98)	US	09/159,822	23 September 1998 (23.09.98)	US	09/159,812	23 September 1998 (23.09.98)	US	09/232,880	15 January 1999 (15.01.99)	US	09/232,149	15 January 1999 (15.01.99)	US	09/288,946	9 April 1999 (09.04.99)	US	<b>(74) Agents:</b> MAKI, David, J. et al.; Seed and Berry LLP, 6300 Columbia, 701 Fifth Avenue, Seattle, WA 98104-7092 (US).  <b>(81) Designated States:</b> AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i>  <b>(88) Date of publication of the international search report:</b> 20 July 2000 (20.07.00)
09/115,453	14 July 1998 (14.07.98)	US																					
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09/288,946	9 April 1999 (09.04.99)	US																					
<b>(54) Title:</b> COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER  <b>(57) Abstract</b> <p>Compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer, are disclosed. Compositions may comprise one or more prostate tumor proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell that expresses a prostate tumor protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as prostate cancer. Diagnostic methods based on detecting a prostate tumor protein, or mRNA encoding such a protein, in a sample are also provided.</p>																							

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EE	Estonia	LR	Liberia	SG	Singapore		

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/JS 99/15838

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/12 C07K14/47 C12Q1/68 A61K39/395 G01N33/68  
 G01N33/574 C07K16/30 C12N15/62 C12N5/02  
 //A61P35/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 97 33909 A (CORIXA CORP) 18 September 1997 (1997-09-18)  the whole document	1-22, 29-31, 35-49, 53-79
A	--- SJOGREN H O: "Therapeutic immunization against cancer antigens using genetically engineered cells" IMMUNOTECHNOLOGY, vol. 3, no. 3, 1 October 1997 (1997-10-01), pages 161-172, XP004097000 ISSN: 1380-2933 the whole document --- -/-	23-28, 32-34, 53-57

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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- \*&\* document member of the same patent family

Date of the actual completion of the international search

31 January 2000

Date of mailing of the international search report

04.05.00

Name and mailing address of the ISA

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 Fax: (+31-70) 340-3016

Authorized officer

ANDRES S.M.

## INTERNATIONAL SEARCH REPORT

International Application No

PC1, JS 99/15838

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CHU R S ET AL: "CPG OLIGODEOXYNUCLEOTIDES ACT AS ADJUVANTS THAT SWITCH ON T HELPER 1 (TH1) IMMUNITY" JOURNAL OF EXPERIMENTAL MEDICINE, vol. 186, no. 10, 1 November 1997 (1997-11-01), pages 1623-1631, XP002910130 ISSN: 0022-1007 the whole document	14-20, 25-27, 41-47
A	EP 0 317 141 A (BECTON DICKINSON CO) 24 May 1989 (1989-05-24) the whole document	50-52
A	ZITVOGEL L ET AL: "Eradication of established murine tumors using a novel cell-free vaccine: dendritic cell-derived exosomes" NATURE MEDICINE, vol. 4, no. 5, 1 May 1998 (1998-05-01), pages 594-600, XP002085387 ISSN: 1078-8956 cited in the application	
P,X	WO 98 37093 A (CORIXA CORP) 27 August 1998 (1998-08-27)	1-15, 17-19, 21,22, 29-31, 34,35, 39-42, 44-46, 48,49, 58-79
P,X	page 3, line 20 -page 22, line 2 page 35, line 9 - last line page 76, line 34 -page 78, line 22 claims	
P,X	WO 98 37418 A (CORIXA CORP) 27 August 1998 (1998-08-27)	1-15, 17-19, 21,22, 29-31, 34,35, 39-42, 44-46, 48,49, 58-79
	page 2 -page 24 example 2 page 35, line 15 -page 36, line 11 page 81, line 14 -page 83, line 11 claims	

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 99/ 15838

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
Remark: Although claims 29-34, 48-49, 52, 55-57  
are directed to a method of treatment of the human/animal  
body, the search has been carried out and based on the alleged  
effects of the compound/composition.
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such  
an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all  
searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment  
of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report  
covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is  
restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-79 all partially

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

.....  
Invention 1. Claims: 1-79 (all partially)

A polypeptide comprising at least an immunogenic portion of a prostate tumor protein defined as SEQ ID 108 and which is encoded by the related SEQ IDs 2,3,107 (according to the Description of the Sequence Identifiers), fragments and variants thereof, fusion proteins comprising it, polynucleotides or oligonucleotides derived therefrom, antibodies or fragments thereof binding to the polypeptide, pharmaceutical compositions or vaccines comprising these products and their use in methods for inhibiting, monitoring or diagnosing the development of a prostate cancer, for removing tumor cells from a sample or for expanding and/or stimulating T-cells.

Inventions 2. to 439. Claims: 1-79 (all partially and as far as applicable)

As for subject 1. but concerning respectively SEQ IDs 1,4-106,109-111,115-171,173-175,177,179-305,307-315,326,328, 330,332-335,340-375,381,382 and 384-472.



# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT, JS 99/15838

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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			CA 2249742 A	18-09-1997
			EP 0914335 A	12-05-1999
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			ZA 9801536 A	08-01-1999

